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THE

STUDENT'S TEXT-BOOK

OF

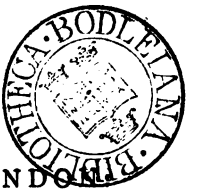
THE SCIENCE OF MUSIC.

FOR USE IN SCHOOLS AND COLLEGES, AND FOR PURPOSES OF SELF-INSTRUCTION.

BY

JOHN TAYLOR,

AUTHOR OF "A MANUAL OF VOCAL MUSIC," "MUSIC SHEETS," ETC. ETC. ETC.



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PREFACE.

IT has long been the conviction of the writer of the present work, a conviction, it is believed, shared by the majority of English musicians, that an exposition —concise, though sufficiently comprehensive in character for the purposes of the general student—of the rules, doctrines, and facts of musical science, and having for its primary object the reference of these to a minimum of underlying *principles*, each receiving a degree of prominence in treatment proportioned to its relative importance, has hitherto remained a desideratum.

The following pages, the result in some measure of a careful study and comparison of the greater number of existing modern treatises at all accepted as authoritative, are the outcome of this conviction. They aim, primarily, at the simplification of musical study by the clear exhibition of its manifold doctrines and rules—the several topics being treated at a length proportioned, in each instance, to their relative importance —as directly dependent upon a few fundamental prin-

ciples and laws. Especially has the prominence and paramount character of the great art-principle of *relation* in music as radical and fundamental—a truth which, although sufficiently obvious, has hitherto, and possibly by reason of its very obviousness, been much neglected, and even almost entirely lost sight of, in scientific musical works—received illustration throughout the entire treatment in a large variety of essential and suggestive connections.

The obscural of this great principle in text-books upon the art, and more especially in the matter of *vocal** instruction, has constituted, in the opinion of the writer, the greatest impediment during the last quarter of a century to the very general diffusion, in our country, of an *intelligent* acquaintance with, and *real mastery* of, the *thing, Music,* as exhibited in her own peculiar, legitimate, and invaluable written language. The *technicalities* and *conventionalisms* of the science and art have not been adequately referred to the universal and necessary *principles*—so far as these may have been clearly ascertained—upon which they are based; and so in too many instances music has either remained to the student a dead language, or anything beyond its merely *mechanical,* and aspiring to a *rational* and *intelligent* assimilation, rendered unnecessarily difficult and perplexing. Should the present work succeed in suggesting, in any degree, a more

* Vide Preface to the author's "Manual of Vocal Music," and his Pamphlet, "Music and Sol-Fa Systems in Elementary Schools." London: George Philip & Co.

extended rational treatment of the subject, the author will feel that he has not laboured in vain.

With the object of rendering the work as comprehensive and widely serviceable in character as possible, the forms of text-book, dictionary, and treatise have been, as it were, blended in its preparation, so that while, on the one hand, a strictly continuous and progressive order of treatment and exposition has been preserved, on the other, by means of the arrangement into consecutively numbered and, as far as possible, self-contained and exhaustive *articles* or *leading paragraphs*, as well as by the incorporation of respectively a very full system of reference, a comprehensive and detailed Index and Table of Contents, and a complementary Glossary, the characteristic advantages of a dictionary in the due and adequate exhibition of all pertinent information upon any given head, have been likewise secured. Moreover, the several distinctive topics of musical theory and doctrine have, in their *arrangement*, been clearly separated and carefully disentangled, not only from the arbitrary though invaluable notation proper to each, but also from one another, each receiving its own special synthetic or analytic development; and a similar treatment has been extended to the notation itself. As aiming to be a sober and lucid exposition of the cardinal technical merits, and the necessary and universal character of the written language of music, the notational section of the work is deferentially submitted to the musical teacher, in the hope that it may not prove

altogether unacceptable or unhelpful at the present time in the work of sound tuition by the old and well-tried paths, and more especially in the formation in the mind of the pupil of an analytical and critical habit with regard to this question of musical notation, induced by the thorough conviction of the simplicity and relative perfection of the old legitimate method of world-wide adoption.

A further exemplification of the separation of topics above alluded to is afforded in the mode of treatment adopted in Part II. of the work, that, viz., dealing with the science of sound-*combination*. The clear separation of both the *harmonic* and the *contrapuntal* laws of, severally, *combination* and *progression*, consonant and dissonant, and the exhibition of the rules of Counterpoint, as direct *corollaries* from the broader and more universal principles of Harmony, together with the mode of presentation and development of the subject of Dissonance as a whole, constitute, so far as the author has ascertained, a method of handling the subject not hitherto essayed, and one, it is thought, obviously calculated to simplify and facilitate the conjoined study of Harmony and Counterpoint to the greatest possible extent. The main reasons for the adoption of the concurrent harmonic and contrapuntal course, here indicated, are more fully set forth in Part II., Divisions I. and II., Introductory Sections and Chap. XXX. § 2, to which, therefore, the reader is referred.

In Part III. the system of reference to underlying principles, characteristic, generally, of the work, has

been steadily adhered to in the demonstration of the determination by these, and as a result of their varied application, of the several main musical *forms.*

With regard to the musical *doctrine* enunciated in Part I. of the work, it should receive mention that for the more particular and precise statement of the mathematical theory of consonance and dissonance, of which Chap. I., §§ 4 and 5, constitute an extended development, and which it is but just to add was in great measure arrived at as the result of independent thought, the author is indebted to "A Treatise on the Science of Music," by Daniel M. G. S. Reeves,* although the recognition of musical effect as, *in general,* dependent upon the existence, and even perception by the ear, of *order* and *proportion* in tonal successions and combinations, as expressed by their several producing *ratios,* is of course coeval with the history of the science itself. As in their present form and stage of development but provisional, tentative, in many respects difficult of reconciliation with acknowledged and proved general principles, and more purely *acoustical* than *musical* in character, the physical theories as to consonance and dissonance recently advanced by Professor Helmholtz have not been included in the text of this work. A suitable summary, however, of the more important results of this distinguished philosopher's researches, with regard to musical *quality* or *timbre,* as ably expounded in Mr Sedley Taylor's work, "Sound and

* London: Novello, 1853.

Music," have, as being attended in their reception with less difficulty, and as more useful to the general student, received incorporation in Chap. X.

To a certain extent, and so far as indicated by the fundamental principle of musical *relation*, the in many respects excellent classification of chromatics, apparently first thoroughly systematised in "A Treatise on Harmony," by Alfred Day, M.D., and subsequently adopted by (notably) Professor G. A. Macfarren, has, with some additional features of development, been followed and endorsed; but in others, and where the fundamental and regulating principle in question is thought not to apply, as, *e.g.*, in the case of the combination known as the augmented sixth, and in that of the so-called chords of the eleventh and the thirteenth, markedly deviated from. Altogether the subject of Dissonance has, in its arrangement into one consistent whole, been subjected to a new method of treatment.

In addition to the detailed and exhaustive treatment of salient topics, a not, it is hoped, unimportant characteristic feature of the work is presented in the comprehensive collection of elucidatory *figures* incorporated in the text. Great pains have been taken in the due elaboration of these, and especially with those serving to illustrate the more prominent *landmarks* of musical theory (as *e.g.*, the dominant seventh, triad, contrapuntal orders, &c.), in order to render them as clear and helpful in character as possible, whether in the work of normal tuition, or in that of self-instruction. The illustrations in music type have been selected, wherever practicable,

from the writings of the great masters, and the condensed *tabulated* form has been to a very large extent employed in the presentation of suitable matter. The value and typical character of the selected *contrapuntal* examples from the two characteristic contrapuntal authorities of modern times, *par excellence*—Albrechtsberger and Cherubini—will, as affording the best insight possible into the relation borne by Counterpoint to Harmony, be readily perceived and acknowledged.

With regard to the most effective method of practically *using* the work, it may be stated generally—although, of course, no absolutely binding rule of universal application can be laid down in this respect—that *upon a first reading*

(1.) The portions of the several divisions of Part I., A and B, *similarly headed* (as ascertainable from the Table of Contents), should be studied *as wholes, concurrently*, each section of *theory* with its corresponding section upon *notation.*

(2.) The study of the several sections treating of *pitch*, with, in each case, their corresponding *notational* sections, should be *alternated* in a progressive order with that of the *rhythmical* (theoretical and notational) sections.

(3.) Part I., Chaps. IX. and X., may be omitted.

(4.) Chap. I., § 5 (with the exception of the graduated table, p. 18, which should be carefully committed to memory), may, in some cases, be deferred until the whole of Part I. shall have been mastered; in others conjoined with Chap. VI.

(5.) Chap. VI. may be taken in portions concurrently with Chaps. I.–V.

(6.) Chap. V. may immediately precede Chap. XXI. § 3.

(7.) *With junior pupils entering upon the work for the first time—*

(*a*) A restriction may be made to the portions printed in the *larger* type, the substance of the more difficult portions in *smaller* type being imparted orally by the teacher.

(*b*) Greater prominence should be attached to the *notational* sections, a consideration of some of the relatively more difficult and abstract of the *theoretical* propositions being, if found necessary, omitted or deferred.

(8.) Upon a *second* reading with *advanced*, and a *third* with *junior* pupils, the text of Part I. may be taken effectively as it stands.

(9.) It is eminently desirable, as explained, p. 25, note, that the work should be used either subsequently to, or conjointly with, a simple, practical *singing* course.

(10.) With regard to Part II., Div. I., it may be observed that, in a first course, the several sections upon *combination* should be, in each instance, succeeded by the corresponding sections upon *progression*, the chapters upon respectively the triad and the dominant seventh being taken as soon after the initiation of a second or third reading of Part I. as possible, the practical study of the First Order of Counterpoint introduced after a first reading of Chaps. XX., XXI. § 1 (*a*), XXII. § 1 (*a*), and XXVII., that of the remaining contrapuntal orders pursued concurrently with a second reading of Chaps. XXIV. and XXV., as indicated in the text, and the consideration correspondingly deferred of the sections upon chromatic alteration. (*Cf.* (6).)

(11.) In a second course the text should be taken as it stands, and it may then be followed by Part III. (See note, p. 365.)

(12.) It is recommended that, as far (and beginning at as early an age) as possible, the various articles in the *larger* type should be *committed to memory*, the explanatory matter in the *smaller* type being, in each instance, subsequently *read* either *alone* or in *class* to the instructor, and by the aid of vocal, instrumental, blackboard, oral, or other convenient and suitable illustration, thoroughly elucidated and explained.

(13.) In conclusion it may be added, that although originally designed for use in connection with and in the work of

preparation for the University Local Examinations, yet, as embracing the complete circle of musical knowledge, the work will, it is hoped, be found adequate for all general purposes, including (notably) those of *self-instruction.*

*** "A Complete and Graduated COURSE OF PRACTICAL EXERCISES IN MUSICAL GRAMMAR AND ANALYSIS, for use in connection with the present work, and for general purposes of musical instruction," *is in preparation.*

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TEXT-BOOK

OF

THE SCIENCE OF MUSIC.

PART I.—MELODY.

A.—THEORY.

INTRODUCTION — THE OBJECT, NATURE, AND MATERIAL OF MUSIC — THE PITCH, FORCE, DURATION, AND QUALITY OF MUSICAL SOUNDS.

1. MUSIC may be called the language of sound. Sound constitutes, so to speak, the raw material of music. Music seeks the expression of feeling and of ideas through the medium of regulated sound.

This expression of thought and emotion, which constitutes the object of music, is effected by means of sound (1) either pure and simple—*i.e.*, abstractedly considered, or (2) in connection with verbal language. Hence, there arises a corresponding classification of music as (1) instrumental, (2) vocal. Of these, the former, as capable only of a more general expression of feeling, is less forcible and widely intelligible in its appeal than the latter, which, by its alliance with the more definite language of *words*, becomes a powerful medium of intensifying and illustrating sentiments and thoughts capable of being thereby exhibited.

2. As adapted to and employed for the purposes of music, sounds, or, to speak more correctly, *musical* sounds,* may be distinguished from one another by their difference in either (1) height or depth; (2) length or duration; (3) loudness, force, or intensity; or (4) quality, complexion, or character.

(1.) The *height* or the *depth* of a sound is termed its *pitch.*

(2.), (3.) The *duration* of a sound, and the degree of *stress* or *force* with which it is produced, together constitute what is known as its *rhythm.*

(4.) The *quality* or *complexion* of a sound, depending usually upon some peculiarity in the construction of the medium (voice or instrument) by which it is produced, and serving to distinguish it from others of identical *pitch* and *rhythm*, is commonly designated by the French term *timbre.*

3. Sounds may be rendered either (1) *singly—i.e.*, one *after* another in individual *successions*, or (2) *jointly—i.e.*, one *with* another, in simultaneous *combinations.* The former mode of their employment constitutes *melody*; the latter, *harmony.*

4. Melody consists, then, of a well-ordered succession of sounds. As in the case of all Fine Art production, it should be characterised in its formation or evolution from the material of sound, and in the disposition (with regard to its various qualities) of this, by the attributes of unity, variety, symmetry, proportion, order, and suitability, or fitness.

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* For the sake of brevity, and to avoid unnecessary repetition, the term *sound* will be employed in this work (except where the context will not admit of this interpretation) to denote *musical* sound.

DIVISION I.—PITCH.

CHAPTER I.

§ 1. The Nature of Musical Sound, and of Pitch.

5. EXPRESSED familiarly, and as a fact of sensation, by the *pitch* of a sound is meant its *highness* or its *lowness*. Physically, it is denoted by the number of vibrations in a given time which go to make it up.

The sensational effect denominated *musical sound*, as distinct from *noise*, is the result of, in the first instance, regular, persistent, and very rapid vibration of particles of air. Such vibration communicating itself ultimately to the brain, through the medium of the auditory nerve, occasions the effect known as musical sound, and recognised as *high* or *low*, *acute* or *grave*, in proportion as the generating vibration proceeds at a rate more or less brisk or tardy.

Vibration may be described as a sort of oscillation or shivering—an extreme rapidity of motion backwards and forwards, pendulum-like, in a limited space (resulting from force imparted by a disturbing influence), either of particles of air or of other elastic bodies. In the last resort all sound is the result of *atmospheric* agitation, although this is commonly set up, primarily, by other media, and thence communicated to the surrounding air.

Sounds are commonly classed as musical or unmusical. An unmusical sound is then termed a noise. But this division may be shown to be defective, inasmuch as, on the one hand, there are few sounds purely musical and entirely unmixed with noise; while, on the other, by far the greater number of noises are to a greater or a less extent characterised by musical attributes. (*Cf.* the distinction of pitch, as respectively high and low, in the reports severally of a pistol and a cannon, or the shrill piping of birds

and insects with the roar and growl of the larger animals.) The real distinction between the two great classes of sounds seems to consist in the fact that the vibrations of *musical* sounds recur continually and persistently in regularly repeated periods, while those of which *noises* are constituted are more or less irregular in their occurrence, and subject to indiscriminate interruption. In other words, to constitute a musical sound there must be a *regular* succession of vibrating impulses. A sound is, technically speaking, musical or unmusical, according as it is or is not the result of persistent and *uniform* vibration.

6. The succession of atmospheric impulses originated by each stroke or pulse of the vibrating body, and involving a continuous, alternating process of condensation and rarefaction of air-particles, is termed a *wave.*

It is a characteristic alike of water and of sound waves that their component portions (joints, so to speak) move backwards and forwards, pendulum-like, within limited distances. The fact should not be lost sight of that in waves it is the *form* only that is carried onward, the individual constituent wave-particles simply oscillating to and fro in a confined area across a central point of rest, to which, so to speak, they are tethered. Thus a wave is an elastic or undulating chain of *motion* whose several links serve, like so many elastic balls, to transmit in opposite directions—both forwards and backwards, *i.e.*—the force which they successively receive, the main difference between aqueous and aerial waves being that in the former the movement is *perpendicular*, and *transverse to* or *athwart* the direction of the wave, the constituent particles of water attaining, successively and uniformly, a certain increased altitude, while in the latter it is *lateral*, or, more correctly speaking, *spherical* and *longitudinal*, with the wave-course—the motion of shock and rebound radiating, fan-like, in all directions from the point of propulsion.

Musical sound, then, would seem to be the result of the application of the principle of *order* to noise. It consists of noise compressed and systematised—compressed so as to admit of its reception by the ear; systematised in the succession, in a regularly-recurring order of its constituent impulses of vibration.

Since musical sound is the product, in every instance, of regularly-succeeding vibrations, and the *rate* or *pace* at which these vibrations follow one another admits of infinite modification,

it is evident that the *pitch* of sounds may be considered from either of two points of view. Either we may be occupied with the *actual number* of vibrations in a given interval of time which go to make it up; or, comparing one sound with another, we may concern ourselves solely with the *relation* in which the producing rates of vibration stand to one another. Hence arises a twofold classification of pitch.

7. Pitch may be regarded from a twofold point of view. It is either absolute or relative. Of these two aspects, the latter is by far the more important.

§ 2. Absolute Pitch.

8. By the *absolute pitch* of a sound is meant, familiarly, its height or its depth in the absolute series—its place as high or low in the entire range of audible sounds. As a physical fact, it is determined by the *rate* or *pace* of vibration required to produce it—the number of vibrations, *i.e.*, in a given time which go to make it up.

The extent of sound appreciable by the human ear has been variously estimated, and considerable diversity of opinion seems to exist as to the extent, more especially of the upward range. Chladni asserts that the ear cannot distinguish sounds made up of less than 32, or more than 16,384 vibrations per second. Euler instances 30 and 7562 as the extremes. Schœdler's "Book of Nature" speaks of audible sounds resulting from 48,000; while Helmholtz places the lowest and the highest appreciable sounds at 30 and 32,770 vibrations respectively, in the same interval of time—a range extending from about the lowest C on the pianoforte to a sound situated three octaves above the highest. Sounds produced by these rates represent, then, something more than the limits of the entire musical system, of which, in each case, the first-mentioned in fact constitutes approximately the lowest extreme.

Since difference of pitch in sound is the result of variation in the rate of vibration, it is plain that the complete range above indicated is capable of an exceedingly minute subdivision, calling

into existence an infinite number of distinct musical sounds. There is a limit, however—although its extent would appear to be somewhat fluctuating, and not possible of very exact definition, owing both to the diverse capacities of different ears, and the varying capacity of one and the same ear at different periods, as a result either of education or of alterations dependent upon physical causes—there is a limit to the power of the ear to discern minute distinctions or shades of tone in the pitch of *sounds*, as of the eye, in the analogous case of colour, to discriminate *tints*. And doubtless, too, there are sounds which, although appreciable by other forms of animal organisation, are either too high or too low, too shrill or too deep, for human discrimination or perception —the result of either extremely slow or extremely rapid rates of vibration.

While, too, considerable latitude exists as to the choice for musical purposes of a *first* or *initial* sound, such latitude is not permissible in its succession by others. Although there is a possibility of any sound whatever being selected in any instance as the *first* in musical composition or performance, still in the choice of those to *follow*, regard must be paid not only to the nature and capacity of the particular species of voice or instrument employed, but also to an immutable law of proportion and selection. "Sounds, although in the strictest sense *musical*, if selected at haphazard, are useless for purposes of musical expression." In order that an idea may be presented, a feeling embodied, a meaning conveyed—in short, that the sounds may be *intelligible*, and constitute *music*, they must stand in well-defined and comparatively simple mutual *relations*.

Another limit to the actual number of sounds made use of for musical purposes is found in the fact that, of the entire range of recognised musical sounds, the most important are those of *medium* pitch, since natural and proper to the several varieties of *voice*—in fact, the only ones producible thereby—and hence at once the most effective and the most extensively employed. These middle sounds, together with those immediately contiguous, constitute the material of all vocal as well as of a large and important proportion of the substance of *instrumental* composition, a fact which may be demonstrated by even a glance at the Table of the Comparative Compass of Voices and Instruments (Appendix), which exhibits the high degree of coincidence existing between the compass of the bulk of the instruments at present in use, and that covered by the different varieties of human voice.

§ 3. Relative Pitch.

9. By the relative pitch of a sound is understood its height or its depth, as compared with that of some other sound to which it is referred.

10. This mutual relation of any two sounds with respect to pitch is termed an *interval*; or familiarly, an interval is the difference between two sounds (the distance, *i.e.*, from one sound to the other) in height or depth.

As intimated above (Arts. 7 and 8), the great and fundamental property of sound is that known as relative pitch. It is of far less consequence whether a sound is the result of a certain fixed numerical rate of vibration (*i.e.*, whether it is absolutely so high or so low), as whether this rate of vibration stands in a more or less simple *relation* to that giving birth to some other sound, either expressed or understood, to which it is mentally referred. Although the effect of a tune or passage is unquestionably modified according as this is performed either up high or down low, still this modification, while taken by the ear into account, does not stand out so markedly, does not come home with such full force, as when the two versions or renderings are placed *side by side* in immediate juxtaposition, and a mutual *relation* thereby established. Thus there may be radically and essentially the same effect with a vast diversity in pitch. That is to say, "God save the Queen" may be pitched either high or low, and, so far as the perception of its identity is concerned, with precisely the same effect. And, on the other hand, there may be, in any two given instances, almost identity of pitch—the exact coincidence may be ever so little deviated from—combined with the most opposite effect upon the ear, as a result of some variation (often very slight) in the order of the mutual *relations* of the component sounds. In illustration of this, compare the effect of (*a*) fig. 1, consisting of the first three phrases of "God save the Queen," with (*b*), presenting the selfsame series of sounds, with but the slightest deviation in pitch (shown at the asterisks). In spite of their identity in the remaining great musical attributes of rhythm, timbre, and verbal connection, a most radical difference of effect is apparent as a result of the varied order of *relation* of the several sounds.

Fig. 1 (*a*)

A similar remark applies to fig 1 (*c*) as compared with (*d*).

Now this ability to recognise the same tune or phrase, at whatever pitch—whether high, low, or medium—is a consequence of the identity of the mutual *relations*, in every instance, of its constituent sounds. Although the pitch is varied, the relation remains the same. *And it is the relation of sounds which is the main thing in music.*

11. All music consists of sounds standing to one another in certain definite relations, and productive of effects consequent upon the nature of these relations.

12. The foregoing remarks go to prove, that of the two phases under which pitch may be viewed, the effect resulting from the *absolute* pitch of a sound, although definite and distinct, is by far subordinate to the greater impression achieved by its *relative* pitch.

The prime regulator and determinator, then, of musical effect —and the remark cannot be too often thrust upon the attention of

the student—the prime dictator of musical effect is found in the nature of the *mutual relations* of the various sounds of a musical composition, whether these sounds are arranged either by way of combination or of succession.

13. The effect of either a melodic succession or a harmonic combination of sounds depends mainly upon the nature—whether simple or complex—of the mutual relations of the rates of vibration of its constituent sounds.

Since musical sound is the result of, in every instance, regular and uniform vibration, proceeding at a *definite rate*, it follows that any two sounds, whether produced in succession or in combination, must stand to one another in a *definite relation*, expressible most exactly in all cases by the numerical *ratio* * of their producing rates of vibration; and as we have seen, it is the nature of this relation which primarily determines their effect upon the ear. Upon examination, the ratios of rates of vibration, and hence of *sounds*, made use of in music, are found to be of no very high degree of complexity, since all expressible by the first four prime numbers, viz., 1, 2, 3, and 5 † or by the multiples ‡—to the exclusion of other primes—of these. Moreover, within the comparatively limited range here indicated, the simpler ratios are of by far the most frequent occurrence. Even the more complex, if considered in connection with the *possible* relations in which rates of vibration, and therefore *sounds*,§ might stand (as the result, *e.g.*, of a much larger selection of primes), are by no means intricately constituted.

14. The mutual relations of sounds made use of in music are all expressible by the comparatively simple

* By the *ratio* of two numbers is meant the *relation* which one bears to the other.

† A prime number is one divisible by no other number save unity.

‡ Of two numbers, one is a multiple of the other if it contains this an equal number of times.

§ For the sake of clearness, we shall speak in future of the ratios of the *sounds* resulting from the several rates of vibration, and not, as hitherto, of the vibratory rates themselves.

ratios, whose terms * are made up either of one of the first four prime numbers, viz., 1, 2, 3, and 5, or—other primes being excluded—of some of their *multiples.*

Simplicity in the relation or proportion of parts is by no means peculiar solely to the evolution of the beautiful in *sound.* The same principle, as dictated by and obtaining universally throughout nature, is found to hold good in sculpture, architecture, painting, and, indeed, in art generally.

§ 4. The Harmonic Series.

In assessing the effect of a musical passage or tune the ear is concerned in a twofold process. It is influenced in its reception of such passage, not only by the perception of the relations one to another of the several individual sounds as they successively enter; it is also more potently affected by the relation of these to some one of their number, to which, collectively, they are more closely and unmistakably allied, and to whose frequent presentation they point, than to any other. This gauging sound, which suggests or calls attention to itself as a standard of comparison in every arrangement of sounds, even although it may not be actually expressed therein, but merely *understood,* has been variously termed. Considered both with regard to melody and harmony, it is of paramount importance as constituting the most powerful bond of *cohesion* and *unity*—those inseparable characteristics of all art production—in a composition (Art. 4).

15. Every arrangement of sounds† (*tonal* arrangement) bears unmistakable reference to some one sound (either expressed or understood) standing to the others collec-

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* By the *term* of a ratio is understood one of the two numbers which serve to express it.

† In addition to its purely technical signification (Art. 22) the term *tone* is often applied, (1) *generally* to denote a musical sound, and (2) synonymously with *tune,* to indicate the accuracy of pitch, quality, &c., of a progression of sounds.

tively in a more intimate and decided relation than does any other single sound, and hence a prime determinator of the several effects of these, resulting from the nature of their respective relations therewith, upon the ear.

16. The system of relations in which sounds may stand to one another, and to that selected as the standard of comparison, when arranged obediently to some one governing principle in an orderly series, is termed a *scale*. There are several species of scale. First and foremost is that unquestionably derived from Nature herself, and consisting of a series of sounds whose ratios stand to one another, and relatively to the first or governing sound, in the order known as an arithmetical progression.*

A musical sound or tone, produced by any of the most commonly employed methods, remains in its pure and unaccompanied state solely for an instant. It immediately generates or calls into existence a series of additional, though far feebler, and in proportion as they successively enter, steadily *waning* sounds, whose vibrations are successively and instantaneously superposed upon, and combine with that of the original sound in the order above specified, that, viz., of arithmetical progression.†

Thus, supposing the first or principal sound to be made up of 1‡ vibration per second, its attendant or satellite sounds will be composed respectively of 2, 3, 4, 5, 6, 7, 8, 9, and so on, vibrations in the same time, the difference between any two succeeding rates of vibration (in this case 1) being invariably the *same*. Similarly, if the original or generating sound be composed of 30

* By an arithmetical progression is meant a series of numbers, each term of which differs from its immediate neighbours—those next before and after it—by the same number, this being termed the common difference.

† An exception, almost the only verified exception to this, occurs in the case of a sound emitted by a tuning-fork, into whose composition no collateral subordinate sounds practically enter, and which therefore affords a sufficiently approximate example of a *simple* musical tone.

‡ As previously intimated, there is no sound resulting actually from a single vibration per second, the lowest appreciable musical sound requiring at least about thirty vibrations in this space of time.

vibrations per second, the order of succession of those subordinate will run as follows—viz., 60, 120, 180, 240, 300, 360, the difference between succeeding rates—the *common* difference—being in this case 60.

A musical tone or sound is thus, in reality, a sort of *bundle* of sounds, although the generating *harmonics* or *overtones* (as they are called), by reason of their ever-diminishing vigour, do not interfere with the effect upon the ear of the principal or predominant in any other way than to impart thereto a certain distinctive *quality*, or, so to speak, *flavour*. (See Division III.)

17. The combination of single tones which make up the effect known as a musical sound is generally termed an harmonic chord or scale. The original, or generating and predominant, sound is variously known as the *grave, generator, prime, fundamental,* or *root;* while the attendant subordinate sounds are designated *harmonics* or *overtones.*

The harmonic chord, consisting, as we have seen, of a number of sounds whose ratios form an arithmetical progression, would seem to constitute the ultimate basis of all music. Of the respective sounds which successively enter into its formation, some stand in a simple, others in a more complex relation to the prime. In fact, the degrees of simplicity appear at first sight to be as numerous as the individual tones. A more extended observation of this natural phenomenon, however, will reveal a basis of classification amongst this apparently indiscriminate collection of sounds.

The simplest relation existing among sounds is clearly that of *identity*, the case, viz., in which the number of vibrations that go to make up the sound in a given time is invariably the *same.* Sounds so related are termed unisons (Lat. *unus sono*), and are said to be in *unison.* The unison constitutes, in fact, a multiplication of a single original sound.

Next in order of complexity is the relation of two sounds in which there occur two vibrations of the higher for every single one of the lower. Sounds standing in this relation are termed *octaves* (8*ves*) (Gr. *octo*).* A sound and its octaves are so like

* For an explanation of the principle which serves to regulate the *nomenclature* of the several musical relations (intervals), see Arts. 28, 54.

one another as to convey in many respects very much the same impression to the mind as would a repetition of the single sound.

The nature of the relation known as the octave is well exemplified by a reference to the voices respectively of men and women, including with these latter those of children. One and the same melody (*e.g.*, the "Old Hundredth"), if essayed by a mixed company of men and women, will almost inevitably, and most naturally, be sung in *octaves*, *i.e.*, as a concurrent double series of, in each case, perfectly independent and distinct sounds, and still, commonly with a unity of effect approximating so closely to identity as, under special circumstances, almost to baffle detection by even the experienced musician.

The cause of this seems to lie—at all events the simple relation and the undivided effect are inseparable—in the *extreme simplicity* of the ratio of sounds an octave apart, and, as a necessary consequence of this, in the high degree of commensurability existing between the concurrent systems of impulses producing a sound and its octaves. Other things being equal, it is manifest that during the simultaneous conjunction in performance of two sounds of equal intensity occupying the octave relation, every *alternate* impulse will be twice as prominent and powerful as the others. And it is equally manifest (1) that the sole point of difference between a sound and its octave is found in the interspersion of single weak impulses with those augmented by reinforcement—those, *i.e.*, *common* to both sounds; and (2) that in the case of *any* two combined (and therefore *following*) sounds, the nature of the interspersion here alluded to is taken cognisance of and ascertained by the ear, with an ease exactly proportioned to the degree of *simplicity* of the producing sound-ratio in question.

Since the relation of the octave approximates so very closely as almost to constitute *identity*, it is plain that the next simple relation in which any two sounds may stand is that in which there occur *four* vibrations of the higher to every single one of the lower, since such a sound stands in the closest possible relation (that of octave) to the octave of the original sound—that, viz., resulting from two vibrations to one of the first (2 : 1). Similarly, the relation of next greatest simplicity will be that of eight to one (8 : 1), the next sixteen to one (16 : 1), and so on, such ratios constituting multiples of the original (2 : 1).

Now the whole of the effects just enumerated, and which are practically recognised as all but exact repetitions of the first or original sound—in fact, exact repetitions, either *higher up* or *lower down*

—are the result of rates of vibration standing in the relation of either 2 or *one of its powers** (as $2^2 = 2 \times 2 = 4$, $2^3 = 2 \times 2 \times 2 = 8$, $2^4 = 2 \times 2 \times 2 \times 2 = 16$, &c.) to 1, and which may be therefore appropriately termed the *binary* (Lat. *binus*) relation. And since the exclusive employment of the binary relation results in the production of nothing but octaves (or ratios of one same species, with but the slightest and almost imperceptible deviation in effect), we must, in order to ascertain the ratio of next degree of simplicity, seek it in numbers *not* confined to 2 or its powers. Such a relation is found by the selection of the next prime number—viz., *three*—in the ratio 1 : 3, the relation, *i.e.*, in which *three* vibrations of the higher occur for each individual one of the lower, and which may be conveniently termed the *ternary* (Lat. *ternus*) relation. And the octave relation being the simplest possible among sounds, it is clear that the ratio next in order of complexity to 1 : 3 is that formed by its highest sound (that of threefold vibration) to any of the *octave* series of the lower. Hence the ratios 2 : 3, 3 : 4, &c., the former substituting the simplest possible relation of its octave for the original sound, the latter the octave of this—ratios the result of a combination of the binary and the ternary relations.

Pursuing an analogous treatment to the foregoing, we find that further complexity is attainable only by the introduction of a fresh prime, its degree, moreover, being regulated by the order of such prime in the whole series of prime numbers—viz., 1, 2, 3, 5, 7, &c.

Selecting, then, the prime next in order—viz., 5—and aiming at a graduated sequence of complexity, noting also the fact that ratios become more intricate in proportion (1) to the introduction into one of their terms of *fresh* primes, and (2) to the combination with these of *preceding* primes, and their multiples in their natural order, we have the following sequence of progressive complication in what may be termed the *quinary* (Lat. *quinque*) relation :—

(*a*) 1 : 5 = five vibrations of the higher to each single vibration of the lower.

(*b*) 2 : 5 = the next simple ratio, its lower sound being the octave of that of the former.

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* By the power of a number is meant that number multiplied by itself one or more times.

(*c*) 4 : 5 = the next simple ratio to (*b*), its lower sound being the octave above the lower of (*b*).
(*d*) 8 : 5, &c. = the next simple ratio, for a similar reason.

The whole of the foregoing are the result of a combination of the binary and quinary relations.

Introducing the ternary relation, or that resulting from the next prime—*three*—we have presented a series of steps successively more complex (1) in the ratios 3 : 5, 5 : 6, &c. (the latter ratio resulting from the application of the octave principle to one of the terms of the former); (2) in those involving the *second* power of three, as 1 : 9 = (1 : 3^2) 2 : 9, 4 : 9, 8 : 9, &c.; (3) in the combination with this quinary of the ternary in the form of second powers of three, as 5 : 9 (= 5 : 3^2); and (4) in a combination of quinary and ternary in the *same* term of the ratio, as 8 : 15 = 8 : (5 × 3), &c.

Although the harmonic chord consists of a very much larger collection, as we have seen (Art. 16), than those formed by the first four primes—in fact, of an infinite series—of sounds, relations not included within those so constituted are not accepted as useful for musical purposes. The immense variety of tonal effects, and consequently of relations, which constitute the material and result of musical performance and composition, forms the product, so far as the physical structure of the sounds is concerned, of the foregoing simple ratios of vibration, or of delicate approximation thereto (p. 23, note).

§ 5. Laws regulating the Nature of Musical Intervals.

18. The following are the laws determining the relative complexity of the several ratios employed in music, and hence the effect upon the ear of the intervals resulting therefrom;—

I. The intervals formed by musical sounds denote ratios of vibration whose terms consist exclusively of the first four prime numbers—viz., 1, 2, 3, 5—or of their multiples. Higher primes than these—as 7, 11, 13, &c.—are not accepted as useful for practical musical purposes.

The above general law may be verified by a glance at the Graduated Table of Intervals (p. 18), in which the various ratios receive dissection in such a manner as to exhibit in each case the mode in which the respective primes enter into their formation.

II. The simplest relations or intervals, and constituting a distinct class known as *consonant*, are the result of ratios involving only the primes 1, 2, 3, 5, or these multiplied by 2, or at most one of its powers.

(1) (*a*) The simplest intervals or relations of all (since octaves) are those denoted by the ratio $1 : 2$, and its various powers in order; as $1 : 4 = 1 : (2 \times 2) = 1 : 2^2$; $1 : 8 = 1 : (2 \times 2 \times 2) = 1 : 2^3$, &c.

(*b*) Next to these come the intervals expressed by ratios comprising 3, or this multiplied by 2 or its powers, as one term, and 1 or 2, or the various powers of these latter in order, for the other; as $1 : 3$, $2 : 3$, $3 : 4 = 3 : (2 \times 2) = 3 : 2^2$, &c. The ratios (*a*) (*b*) constitute a first great subdivision of the first distinct class of intervals, and known as *perfect consonances*.

(2) Ratios of a second grade of complexity, and producing intervals forming the second great subdivision of the first main class of intervals, and designated *imperfect consonances*, are (*c*) Those comprised of 5, or this multiplied by 2 or its powers, as one term, together with 1, 2, or one of the powers of this latter, as the other; as $1 : 5$, $2 : 5$, $4 : 5 = (2 \times 2) : 5 = 2^2 : 5$, $5 : 8 = 5 : (2 \times 2 \times 2) = 2^3 : 5$, &c.

(*d*) Ratios comprised of 5, together with, as their other term, 3, both terms being capable of combination with either 2 or one of its powers; as $3 : 5$, $5 : 6 = 5 : (2 \times 3)$, &c.

III. Then follow ratios of sufficiently intricate structure to constitute a second main class, and resulting in what are termed the *dissonant* intervals, in

(1) (*e*) Those comprised of the second power of 3 (= 9) as one term, with 1, 2, or its powers, as the other; as $1 : 9 = 1 : (3 \times 3) = 1 : 3^2$, $2 : 9 = 2 : 3^2$, $4 : 9 = 2^2 : 3^2$, $8 : 9 = 2^3 : 3^2$, $9 : 16 = 3^2 : 2^4$, &c.

(*f*) The same with 5 as the remaining term, or this combined with 2 or its powers; as $5 : 9$, $9 : 10 = 9 : (5 \times 2)$, &c.

(*g*) Ratios comprising the combination of 5 and 3 as *one* term, with 2 or one of its powers for the other; as $8 : 15 = 2^3 : (3 \times 5)$, $15 : 16 = (5 \times 3) : 2^4$.

(*h*) Ratios comprising, in a degree more complex, the combination of 5 and 3^2, as one term, with 2 or one of its powers for the other; as $32 : 45 = 2^5 : (3^2 \times 5)$.

The ratios included under (*e*), (*f*), (*g*), (*h*), compose a first subdivision of the second main class, and which may be appropriately designated, since producing intervals peculiar to the *diatonic* scale, as that of the *diatonic* (Art. 30) *dissonances.*

(2) (*i*) Ratios in successive and increasingly complex order, resulting respectively from 5^2 ($5^2 \times 3$), (5^3), as one term with progressively 2 and its powers, either alone or combined with 3, and the powers of *this* as the other.

The ratios included under (*i*), and which are those of the highest degree of complexity employed in music, form a second subdivision of the second main class, and may be termed *extraneous* or *chromatic.* It is a characteristic of the second main class of ratios (that, viz., producing *dissonant* intervals), that they comprise as one term, in every instance, either the product of the higher primes, 3 and 5, or one of their powers, or the product formed by one with a power of the other.

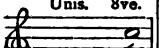
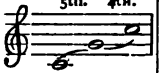
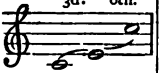
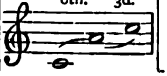
A consideration of the foregoing rules shows the degree of complexity of ratio gradually to increase :—

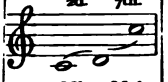
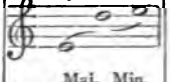
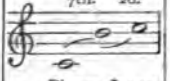
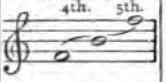
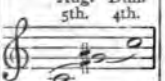
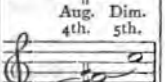
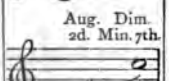
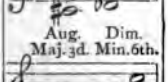
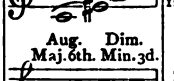
(1.) With the introduction of each fresh prime; a ratio involving 5, *e.g.*, being more complex than one only comprising 3.

(2.) With the *dimension* (depending upon its position relatively in the series) of the prime or multiple combined with another and higher prime or multiple in the formation of the term of a ratio. Thus, *e.g.*, 5×3^2, as the *term* of a ratio, will be more complex than 5×3, since involving a higher factor of combination (viz., 3^2); and similarly the *ratio* $5^2 : (2 \times 3^2)$ will be more intricate than $5^2 : (2^3 \times 3)$, as comprising a power of the higher term 3 (viz., 9) not attained in the ratio last named. The progressive character of the complication, and the distinctions involved by the successive entry into the two sets of terms of higher factors, is rendered apparent in the following Table by the mode of arrangement. For an explanation of the various interval names, and those of the several classes, see Chapter VI.

Graduated Table of Ratios producing the various Simple Musical Intervals—those, viz., within the Octave.

NOTE.—Since the *compound* consist of merely the extension by an octave of the several *simple* intervals (Art. 57), the following table must, it is clear, comprise a complete collection of the several distinctive intervals employed in music.

Extent in Semitones.	Interval. Inversion.	Ratio.	Terms. 1st.	Terms. 2d, or Characteristic.	Name of Interval.	Additional Names.	
0	Unis. 8ve. 	1 : 1	1	1	Unison.	Prime.	I. Consonant. — 1. Perfect.
12		1 : 2	1	2	8ve.	Perfect.	
7	Per. 5th. Per. 4th. 	2 : 3	2	3	5th, Perfect.	Natural. Unaltered.	
5		3 : 4	2^2		4th, Perfect.	Major. Natural. Unaltered. Minor. Major.	
4	Maj. 3d. Min. 6th. 	4 : 5	2^2	5	3d, Major.	Greater. Sharp.	2. Imperfect.
8		5 : 8	2^3		6th, Minor.	Lesser. Flat.	
9	Maj. 6th. Min. 3d. 	3 : 5	3		6th, Major.	Sharp.	
3		5 : 6	3×2		3d, Minor.	Lesser. Flat.	

Extent in Semitones.	Interval.	Inversion.	Ratio.	Terms. 1st.	Terms. 2d, or Characteristic.	Name of Interval.	Additional Names.	
	Maj. 2d.	Min. 7th.						
2			8 : 9	2^3		2d, Major.	Major tone.	
10			9 : 16	2^4		7th, Minor.	Sharp. Lesser. Flat.	
	Min. 7th.	Maj. 2d.			3^2			
10			5 : 9	5		7th, Minor (an alternative form) see note, p. 23.		
2			9 : 10	5×2		2d, Major.	Minor tone.	
	Maj. 7th.	Min. 2d.						
11			8 : 15	2^3	5×3	7th, Major.	Sharp.	1. Diatonic.
1			15 : 16	2^4		2d, Minor.	Diatonic or Maj. Semitone. Flat or Lesser.	
	Pluper. 4th.	Imper. 5th.				4th, Pluperfect.	Tritone. Major. Sharp.	
6			32 : 45	2^5	5×3^2		Imperfect. Superfluous.	
6			45 : 64	2^6		5th, Imperfect.	False. Diminished. Minor. Defective. Flat.	
	Aug. 5th.	Dim. 4th.						
8			16 : 25	2^4		5th, Augmented.	Extreme Sharp. Superfluous.	
4			25 : 32	2^5		4th, Diminished.	Imperfect. Extreme Flat.	
	Chrom. sem.	Dim. 8ve.				Chromatic semitone.	Prime Superfluous. Minor Semitone.	II. Dissonant.
1			24 : 25	$2^3\times3$	5^2		Augmented or Extreme Unison	
11			25 : 48	$2^4\times3$		8ve, Dim.	Extreme Flat.	
	Aug. 4th.	Dim. 5th.						
6			18 : 25	2×3^2		4th, Augmented.	Extreme Sharp. Superfluous. Tritone.	
6			25 : 36	$2^2\times3^2$		5th, Diminished.	Extreme Flat.	
	Aug. 2d.	Dim. Min. 7th.						
3			54 : 75	2^6	$5^2\times3$	2d, Augmented.	Extreme Sharp. Superfluous.	
9			75 : 128	2^7		7th, Min. (Dim.)	Imperfect Extreme Flat.	
	Dim. Min. 2d.							
0			125 : 128	2^7		2d, Min. (Dim.)	Enharmonic Interval. Enharmonic Diesis. Quartertone. Dim. Prime.	2. Chromatic or Extraneous.
	Aug. Maj. 3d.	Dim. Min. 6th.						
5			96 : 125	$2^5\times3$	5^3	3d, Maj. (Aug.)	Extreme Sharp. Superfluous.	
7			125 : 192	$2^6\times3$		6th, Min. (Dim.)	Extreme Flat.	
	Aug. Maj. 6th.	Dim. Min. 3d.						
10			72 : 125	$2^3\times3^2$		6th, Maj. (Aug.)	Extreme Sharp. Superfluous.	
2			125 : 144	$2^4\times3^2$		3d, Min. (Dim.)	Imperfect. Extreme Flat.	

CHAPTER II.

The Common or Diatonic Scale.

THE crude material afforded in the natural formula, known as the harmonic chord, is obviously unadapted to, and, as will be found upon actual experiment, even impracticable with, the resources possessed by voices and melody-producing instruments. Indeed, few voices, and these calling into requisition their extreme capacity for production, can effectively render more than the first three harmonics. Moreover, as previously intimated, the minute distinctions, and the multiplicity of the relations comprised within the harmonic series (arising from the presence therein of so many distinct primes), do not commend themselves as practically valuable to the civilised European ear.

19. The common scale, which forms the fundamental basis and material of all music (in the modern sense), consists of seven sounds produced by rates of vibration standing in the following simple ratios to the first or lowest—*i.e.*, to the standard of reference or governing sound (Art. 15), and selected from the harmonic chord —viz., 2 : 1, 3 : 2, 4 : 3, 5 : 4, 5 : 3, 9 : 8, and 15 : 8.

That is to say, there occur in the same interval of time (taking the ratio 2 : 1) two vibrations of the higher sound for every single one of the lower; taking the ratio 3 : 2—*three* vibrations of the higher for every two of the lower, and so with the rest.

The order here given, however, is not that universally accepted as suited to the genius and for the purposes of melody.

20. The regulating principle which governs the arrangement of this collection of ratios, resulting in the sounds of the melodic standard scale, as best adapted for purposes of *melody or tune*, is that of *graduated relative pitch*, a marked characteristic of the order determined thereby

being that it affords a more *contrasted* and *diversified* succession of relations than does the original harmonic model, with its calculated and uniformly graduated scale of complexity.

The foregoing (Art. 19), although the order of relative simplicity of the several ratios, as exhibited in the order of their entry into the harmonic chord, is not that of graduated pitch—a fact which will be more clearly seen by definitely fixing the height of the first, or, so to speak, *calculating* sound at any arranged number of vibrations per second—say twenty-four.

The remaining sounds will then be constituted as in the following table (fig. 2):—

Fig. 2.

Selected Sound.	Ratio.	Number of Vibrations.
1st	1 : 1 =	24
2d	2 : 1 =	48 : 24
3d	3 : 2 =	36 : 24
4th	4 : 3 =	32 : 24
5th	5 : 4 =	30 : 24
6th	5 : 3 =	40 : 24
7th	9 : 8 =	27 : 24
8th	15 : 8 =	45 : 24

Now, since the actual height or pitch of a sound depends directly upon its rate of vibration—the number of vibrations, *i.e.*, in a given time which go to make it up—it follows that, considered with respect to sound 1, produced by 24 vibrations, that numbered 2, and the result of 48 vibrations, is very considerably higher than sound 3, which is composed of only 36 vibrations. Similarly, this sound 3 is higher than the sound 4 (of 32 vibrations), and much higher than sound 7 (of 27 vibrations), and so with the rest.

It is therefore clear that the above is not the order of pitch. Beginning, then, with the lowest sound, and arranging the entire series in a graduated sequence of relative pitch, ranging from low

to high, we have the following, which is accepted as the natural order of the standard scale for purposes of melody, whether this be produced by voices or instruments (fig. 3):—

Fig. 3.

Vibrations.....	24	27	30	32	36	40	45	48
Ratio to 1st Sound.		9 : 8	5 : 4	4 : 3	3 : 2	5 : 3	15:8	2 : 1
Scale Sound.....	1st	2d	3d	4th	5th	6th	7th	8th

A very brief consideration of the varied order here introduced, as the result of the application of the principle of graduated relative pitch, in the arrangement of the several sounds of the standard scale, will reveal the existence of a *new* set of relations called into being as a consequence of this varied order—*relations existing between the sounds themselves*—whether these latter be taken indiscriminately, or in the order of contiguity—of succession.

Reducing the foregoing rates of vibration to their lowest terms in each successive adjacent pair, we have the following as the ratios of the several sounds resulting from their new *contiguity*—an order essential in every instance to the formation of a true scale (fig. 4):—

Fig. 4.

Ratio of 1st	and 2d	scale sounds	=	24 : 27 =	8 : 9
„ 2d	and 3d	„		27 : 30 =	9 : 10
„ 3d	and 4th	„		30 : 32 =	15 : 16
„ 4th	and 5th	„		32 : 36 =	8 : 9
„ 5th	and 6th	„		36 : 40 =	9 : 10
„ 6th	and 7th	„		40 : 45 =	8 : 9
„ 7th	and 8th	„		45 : 48 =	15 : 16

And the complete scale will run thus (fig. 5)—

Fig. 5.

Scale sounds	1	2	3	4	5	6	7	8
Ratios	8 : 9,	9 : 10,	15 : 16,	8 : 9,	9 : 10,	8 : 9,	15 : 16	

The ratios formed by the sounds of the scale, taken in any other order than those hitherto considered, consist, with one or two exceptions,* solely of *duplicates* of those already specified, a fact which may be verified by the selection in order of each of the scale sounds, and the successive comparison of its number of constituent vibrations with that of each of the other scale sounds. Thus the vibrations of the 3d sound of the scale (30 in the above list, fig. 3) might be compared with those respectively of the 5th (36), 6th (40), 7th (45), 8th (48), and 1st (24), an operation which would give the corresponding ratios $30 : 36 = (5 : 6)$, $30 : 40 = (3 : 4)$, $30 : 45 = (2 : 3)$, $30 : 48 = (5 : 8)$, all of previous occurrence, and so with the remaining scale sounds.

To revert to the three distinct ratios produced by *contiguous* scale sounds—viz., $8 : 9$, $9 : 10$, $15 : 16$.

Of the three several ratios here presented—ratios, be it remarked, so pre-eminently and distinctively characteristic of *tune* or *melody* as to constitute, so to speak, its very bone and sinew (Art. 20)—the two larger, differing as they do in so trifling a degree, as demonstrated in the slight deviation of pitch in sounds standing in these ratios to a *common* sound, produce, considered relatively with the third, *virtually the same effect upon the ear*, and are accordingly very extensively, in fact almost universally, accepted for practical purposes as *identical*.†

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* These exceptions are as follows:—

(1) The ratio $10 : 18$ $(= 5 : 9)$, resulting from the application of the 8ve principle to $9 : 10$, occurring respectively between the 2d and 3d and 5th and 6th scale sounds.

(2) The ratio $27 : 32$ occurring between the 2d and 4th scale sounds, and approximating closely to $5 : 6$.

(3) The ratio $32 : 54$ $(= 16 : 27)$ resulting from the application of the 8ve principle to (2).

(4) The ratio $20 : 27$ occurring between the 2d and 5th scale sounds, and approximating closely to $3 : 4$.

(5) The ratio $27 : 40$ resulting from the application of the 8ve principle to (4).

(6) The highly distinctive ratio $32 : 45$ occurring between the 4th and 7th scale sounds.

(7) The ratio $45 : 64$ resulting from the application of the 8ve principle to (6).

† Slight deviations from perfection in musical ratios no more interfere with the ear's assessment and reception of the normal ratio represented or signified, than do slight deviations from strict accuracy in measurement in

A greater disparity exists, however, between these and the remaining or more complex ratio (15 : 16). Hence the order of the scale is usually looked upon (and treated in familiar language, having regard to the sensational effect) as comprising two species of ratio, and consequently interval, a larger and a smaller respectively, the larger being denominated a *tone* (8 : 9 or 9 : 10), the smaller a semitone (15 : 16). But in a strictly mathematical view of the scale the tones are further classified as respectively *major* or greater (Lat. *major*) (8 : 9), and *minor* or lesser (Lat. *minor*) (9 : 10). (See table, p. 19.)

21. The order of the standard scale virtually comprises two species of intervals between its adjacent sounds, a larger and a smaller.

22. The larger interval found between two adjacent sounds of the standard scale is termed a *tone*, the smaller a *semitone*. The semitones are found between the third and fourth and the seventh and eighth sounds of the scale, respectively (figs. 5 and 6).

The disparity in their effect upon the ear existing between sounds occupying respectively the larger and the smaller ratios 8 : 9, or 9 : 10, and 15 : 16, is most effectually rendered apparent by listening to, or by slowly performing (better by singing in imitation of a pattern), both the scale, and the two instances in which the smaller ratio occurs. Familiarly, the difference of ratio is best shown by describing the effect of two sounds occupying the ratio

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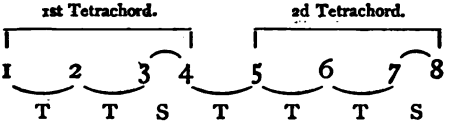
the corresponding case of proportion in *form;* as, *e.g.*, to take a simple instance, of small discrepancies in the balance between two opposite and corresponding sections in a building, or of architectural masses related in a given proportion. Were it not, indeed, for this inevitable trace of human imperfection in adjustment, music, and even art generally, could not exist, a position which, so far as music is concerned, is most clearly and unmistakably demonstrated in the case of instruments with a fixed, and hence limited, number of sounds, *e.g.*, *keyed* instruments. To go further than this, however, music in perfect tune, as a result of absolutely correct ratios, is in practice impossible of attainment, and exists only theoretically, and on paper. Nevertheless, the approximations commonly accepted are sufficiently delicate not to offend the ear, and to convey substantially the impression of absolute truth of adjustment (Appendix, *Temperament*).

15 : 16 as one of greater *closeness*, *pungency*, or *piquancy*, the presentation of sounds so related, whether in combination or in succession, serving, as indeed in varying degrees do all the instances of the more intricate or complex ratios (see Graduated Table, p. 19), to arrest the ear, and pique or constrain it to the reception and assessment of the well-marked contrast afforded by their incommensurate producing rates of vibration.*

23. The order of musical sounds known as the standard scale is invariably made up of five tones and two semitones, arranged in the following order—viz., two tones and a semitone, followed by three tones and a semitone; and this method of arrangement, to distinguish it from others, is more particularly termed, for reasons to be given subsequently (Art. 32), the *major* mode of the scale (fig. 6).

Fig. 6.



24. Every tune or musical composition is founded

* It is of paramount importance that the student should realise, so as to be able to recognise and produce, the various musical effects which are successively presented for his study and assimilation, and in no instance is such a course more essential than in that of the common scale. By far the most effectual method of obtaining a mastery over the manipulation of his musical materials is to be found in their assiduous systematic production by the *voice;* for in no form of practice is the student compelled more effectually to *think* than in intelligent *singing*. The present work presupposes either a preliminary or a conjoint practical course having this object in view. Such a course is presented in the author's "Manual of Vocal Music," * a work forming a practical exposition of the principle of *relation* in music as the fundamental basis of vocal practice.

* London: George Philip & Co., 32 Fleet Street.

upon, or, in other words, the several sounds of which a piece of music is made up are selected from, a scale.

A consideration of the normal order of the sounds of the diatonic scale (its tonal arrangement or *mode, i.e.*) will show this formula to consist of, in structure, two precisely similar halves, each comprising two tones followed by a semitone. Each of these collections of four sounds is termed a *tetrachord* (Gr. τέτρα, four; χορδή, string). (Fig. 6.)

25. A tetrachord may be defined as a scale of four sounds.

Tetrachords may be classified as *conjunct* and *disjunct*, in accordance with their mode of sequence. The foregoing (fig. 6), as presenting consecutive specimens having no sound in *common*, furnishes an example of *disjunct* tetrachords. *Conjunct* tetrachords result from the use of a sound common to both, such sound being at once the final one of the first and the initial of the second tetrachord. An instance is afforded in fig. 7, the common sound being indicated by an asterisk.

Fig. 7.

26. A scale may be formed upon any sound whatever.

The first or calculating sound of a scale, as previously stated, is not necessarily made up invariably of one immutable number of vibrations per second. Were this the case, musical resources would be far more limited than is the fact. Considered in itself, it is of comparatively small importance whether the first or initial sound of a scale consist of 120 or of 150 vibrations per second. But place two scales so inaugurated in immediate *succession* in performance, and you call into existence a definite mutual relation, and one productive of a very marked effect. It is from this point of view that the importance of the possibility of establishing scales upon (at pleasure) *any* sound is perceived, as affording means for calling into existence an endless variety of *relations*.

And, as we have seen, it is the relation of sounds that is the main thing in music (Art. 10).

27. Considered as the basis or material of a tune or piece of music, and with regard to their general effect upon the ear, as a whole, the several sounds of a scale are collectively termed a *key*, and the tune made up of such sounds is said to be in such and such a *key*.

28. The various sounds of a scale or key are numbered in accordance with their position relatively with the first (governing) or lowest sound, as respectively first, second, third, fourth, fifth, sixth, seventh, and eighth, or octave.

To each of the sounds of the scale has also been applied one or more distinctive names, expressive either of some one of its characteristic properties, or of its scale position. Thus, the first or initial scale sound, that, viz., to which all the others unmistakably refer, as standing to them collectively in the closest and most intimate relation, is termed (since pre-eminently *the* tone or sound of the scale) the *tonic* or *key-note* (Art. 15), and as being invariably the last of some one or more of the melodies or *parts* of a piece, the *final*.

As standing next in order above the key-note, the second of the scale is termed the *super-tonic*.

For an explanation of the several terms *mediant*, *subdominant*, *dominant*, *submediant*, and *sensitive* note, applied respectively to the 3d, 4th, 5th, 6th, and 7th sounds of the scale, see Part II. The 8th sound of the scale is known as the *octave*, and the term octave is frequently further extended to denote the scale of sounds itself.

29. A key is named after its tonic or key-note.

30. As proceeding in a following order, chiefly of *tones* —no larger interval being involved—and in order to distinguish it from other forms of scale, the ordinary melodic standard scale has been termed *diatonic*—moving, *i.e.*, by tones (Gr. δια, through; τονος, a tone).

This important sound formula will, therefore, as needed, be henceforth designated in this work as the diatonic scale.

CHAPTER III.

The Relation of Scales: Mode: The Major Mode.

IT is plain that music, confined to a single series of scale sounds at one uniform, invariable pitch, would be not only exceedingly limited in scope, but, after a time, even distasteful in its effect. In order, then, to the infusion of a necessary variety (Art. 4) and freshness, some principle must be adopted of utilising the law, previously expressed, that "a scale may be built upon any sound whatever" (Art. 26), by the addition and incorporation into the musical system of fresh scales at differing degrees of pitch.

The principle upon which, in order to obtain this requisite variety, scales are selected, is that forming the foundation of all music—of the *relation* of sounds (Art. 10).

Extending, then, this main principle of relation, by which all music is regulated, and accepting the division of the common scale into five tones and two semitones as for all practical purposes sufficiently accurate (p. 24), it is found that the scale presents a different order of tones and semitones (and hence of signified relations), with the successive acceptance of each of its component sounds as initial; or, in other words, the number of distinct scale sequences, or possible modes of its disposition, when proceeding by the smallest distances, is that of scale sounds—viz., *seven*, and in no case is that recognised as the type or normal series (fig. 6) repeated.

31. The order of the disposition of the sounds of a scale, considered with reference to the note selected as initial or key-note (Art. 28), as well as to their arrangement as a basis for musical composition, is termed its *mode*.

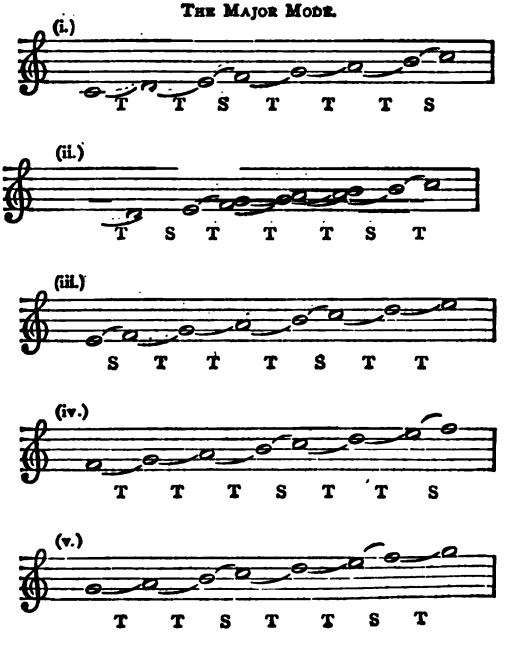
32. There are, it is plain, *seven possible* modes of the diatonic scale, all of which have been in use at various stages of musical history. At the present time only *two* are employed generally by musicians—viz., those initiated respectively by the *first* and the *sixth* sounds

of the diatonic scale as starting-points. Of these, the former as having the important interval of *third* occurring between its first and third sounds—*major—i.e.*, composed of two whole tones, is denominated the *major* mode, or the mode of the *greater third;* the latter, as possessing its corresponding third, that, viz., between *its* first and third sounds—*minor—i.e.*, composed of only a tone and a half (*semi*tone), receives the designation of the *minor* mode, or mode of the *lesser third.*

For an exhibition of the tonal structure of the seven possible modes of the diatonic scale, and of the distinction between the two known respectively as *major* and *minor*, see fig. 8.

Fig. 8.

THE MAJOR MODE.



THE MINOR MODE.

Of the results exhibited in fig. 8, some bear a closer, others a more remote, resemblance to and correspondence with, so far as the order of tones and semitones—*i.e.*, the *mode* of the scale—is concerned, the original paradigm (or *major* mode), the series beginning upon the *fifth* sound of the latter, *e.g.*—viz., G (fig. 8 v.)—differing therefrom in only one particular, while that initiated by the *seventh*, B (fig. 8 vii.), is of almost totally *opposite* tonal arrangement. And in this extension of the principle of relation, from single sounds to entire musical scales, it is natural to find that those modes of disposition most closely approximate whose first or starting sounds stand in the simplest relation to that of the original model series, the arrangements, viz., based upon the 5th and the 4th sounds of the typical scale—sounds, *i.e.*, standing to this primary one in the several ratios of 3 : 2, and 4 : 3.

33. Scales, then, like individual sounds, stand to one another in relations of varying degrees of simplicity.

34. The most closely related scales are those whose first sounds (tonics) occupy the relation expressed either by the ratio 2 : 3 or by that of 3 : 4, the former constituting the interval of a fifth (fig. 3), the latter that of a fourth. Scales so related possess all their sounds and intervals, excepting one—although there exist slight and almost imperceptible deviations in the relations of these, as expressed in the most exact form of numerical ratios—in common (Art. 39).

In order to the formation of a true scale upon either of the sounds of fourth or fifth of a given scale here instanced, it is manifest that, in each case, rejection must be made of the particular sound concerned in the formation of the interval (and hence

ratio), which, as peculiar to the original series, is therefore not found in the new scale, and its place supplied by a fresh sound, standing in as true a relation to its neighbours as its corresponding one in the original scale series. To take the case of the scale on the *fifth* sound first.

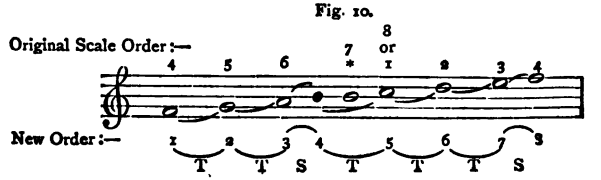
The point of discrepancy is here presented by the nature of the last two intervals (fig. 8 v.) which, instead of constituting a semitone followed by a tone (S T), should have their order reversed as tone and semitone (T S) (fig. 9), a process at once effected by the substitution for sound 7 (sound 4 of the original scale) of an entirely fresh sound situated a semitone higher. The order hereby produced is that of the true scale. *Cf.* figs. 8 v. and 9, in the last of which the substituted sound is represented by a *black* note. The sound rejected is denoted by an asterisk.

Fig. 9.

In the case of the series inaugurated by the *fourth* sound of the original scale, the point of non-coincidence is discovered in the intervals between respectively its 3d and 4th, and its 4th and 5th sounds (the 6th, 7th, and 8th, respectively, of the original scale), the order of the interval between which, as tone and semitone (T S) (fig. 8 iv.), should, like that last instanced, although of a directly opposite kind, receive inversion as semitone and tone (S T) (fig. 10). The necessary inversion is effected by the rejection of sound 4 (7 of primary scale) for one a semitone *lower* (fig. 10). *Cf.* figs. 8 iv. and 10, in the last of which the substituted sound is indicated by a *black* note.

The sound rejected is denoted by an asterisk.

Fig. 10.



35. Scales formed upon the fourth and fifth sounds of an original scale, and hence comprising an alteration in but the case of a single sound, are related to this primary scale in the first degree.

The relation between such scales and the primary is so simple and obvious, and the number of common sounds so large, that they possess a strong power of *suggestion* of this.

36. The scale selected as primary or original is termed the *principal* scale, those related thereto in various degrees, as being formed upon its component sounds, the *relative* or *derived* scales.

The principle enunciated above, as to closeness of relation with regard to the original or principal scale, is, it is manifest, applicable to the same extent, and with equal force, to its relative scales, as well as to, in their turn, the relative scales of these; and its mode of application being in every successive instance precisely the same, it follows that such new scales, evolved by an extension of the process of derivation here described, become respectively relatives of a degree (second, third, &c.) corresponding to the number of alterations effected by the admission of fresh sounds (figs. 11, 12). Such an application of the principle of relation is clearly exhibited in figs. 11 and 12, each of which consists of a series of derived scales related to the principal in a degree proportioned to the order therein of the several staves upon which they are displayed. It is plain that *any* scale may be selected as principal.

Speaking familiarly, and with regard to sensational effect, as high and low, the point of alteration is seen from a consideration of fig. 11, to lie in each several instance between the 7th and 8th sounds of the series of scales formed upon a progressive series of *fifths*, rejection being made of sound 4 of the original scale in favour of one of greater *elevation*, and constituting sound 7 of the derived scale (fig. 9); while the inspection of fig. 12 reveals the point of alteration as situate between the 3d and 4th sounds of the several scales based upon a succession of fourths, sound 7 of the original being replaced by one of greater *depression*, and forming the 4th sound of the derived scale (fig. 10).

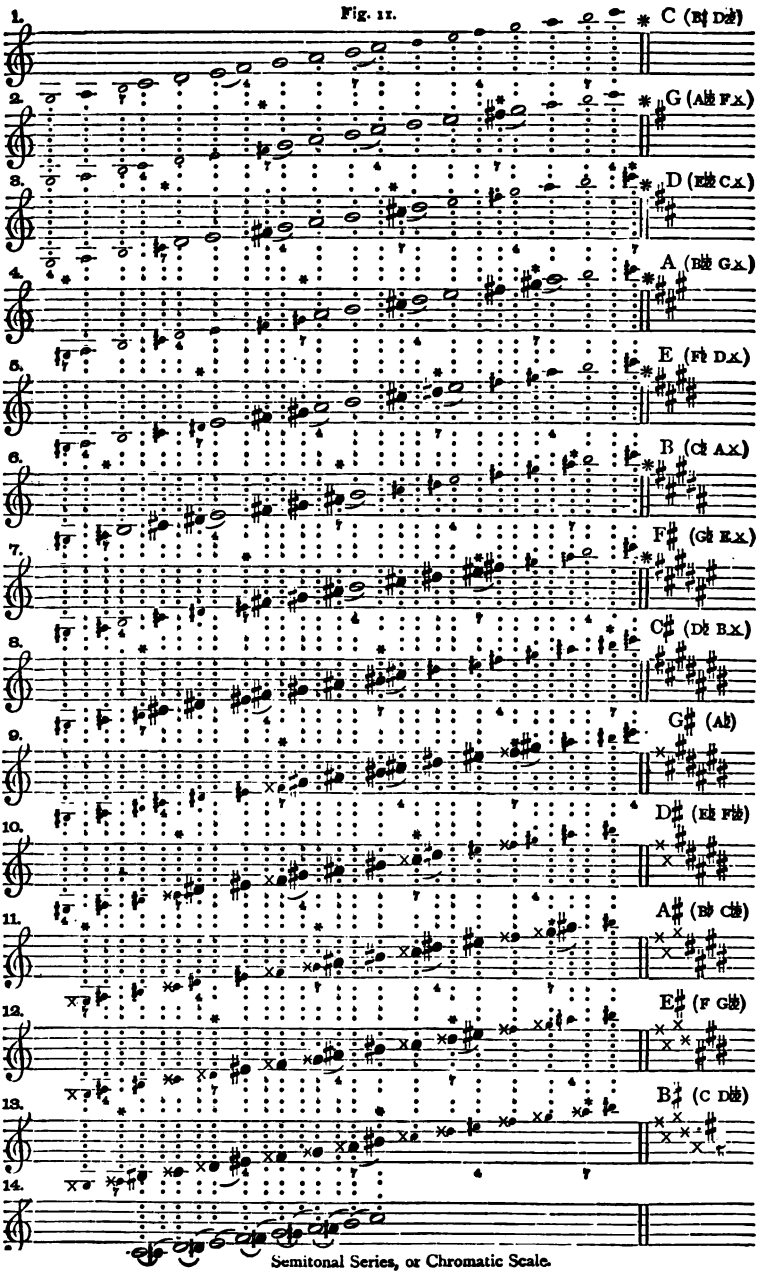
Having regard to the object aimed at in the choice of additional scales to the original or first series, the attainment, *i.e.*, of a suitable variety of effects as a result of the extended application of the principle of relation underlying and determining *all* musical effect, it is found that the production of entirely fresh scales, of an intimacy of relation such as is here described, results only from their formation upon an unalloyed series of either fourths or fifths, and not from an alternated series of *interspersed* fourths and fifths; for, in this last instance, if, *e.g.*, selection be made of sound 5 of the original scale, its fourth would be but the octave of such original scale; and again, should sound 4 of this be that of primary selection, the succession of this by its fifth would alike result in the original octave. This return to the point of departure (or, which is the same thing, to one of its octaves) is a natural consequence of the fact that the intervals of fourth and fifth together constitute an octave (p. 18), and that where octaves alone are concerned, there can be no progression, no essential difference of effect (pp. 12, 13).

From the fact (1) that the key-notes of a regular series of immediately derived scales uniformly succeed one another at the interval of a fifth, either above or below, as the case may be (for a fourth above is essentially equivalent to, and becomes upon inversion (Art. 51), a fifth below; and (2) that the process of substitution, whether of higher or lower sounds, is invariably applied to sounds in *exactly corresponding positions* in the several scales—viz., in the case of the higher sounds in lieu of note 4, and in the case of lower sounds of note 7 of the original scale, it follows that the substituted sounds themselves likewise form a regular order of fifths, either if sounds of greater elevation *above*, or if, on the contrary, of greater depression *below* the 1st replacing sound. See figs. 11 and 12, where, in the former, the substitution is invariably one of elevation for the original sound 4, and, in the latter, one of depression for the original sound 7, and where, also, the sounds of replacement, indicated by black notes, with asterisks, follow in the first case, as shown in fig. 11, in order of fifths; in the second, as exhibited in fig. 12, in that of fourths.

A consideration of figs. 11 and 12 reveals the following results:—

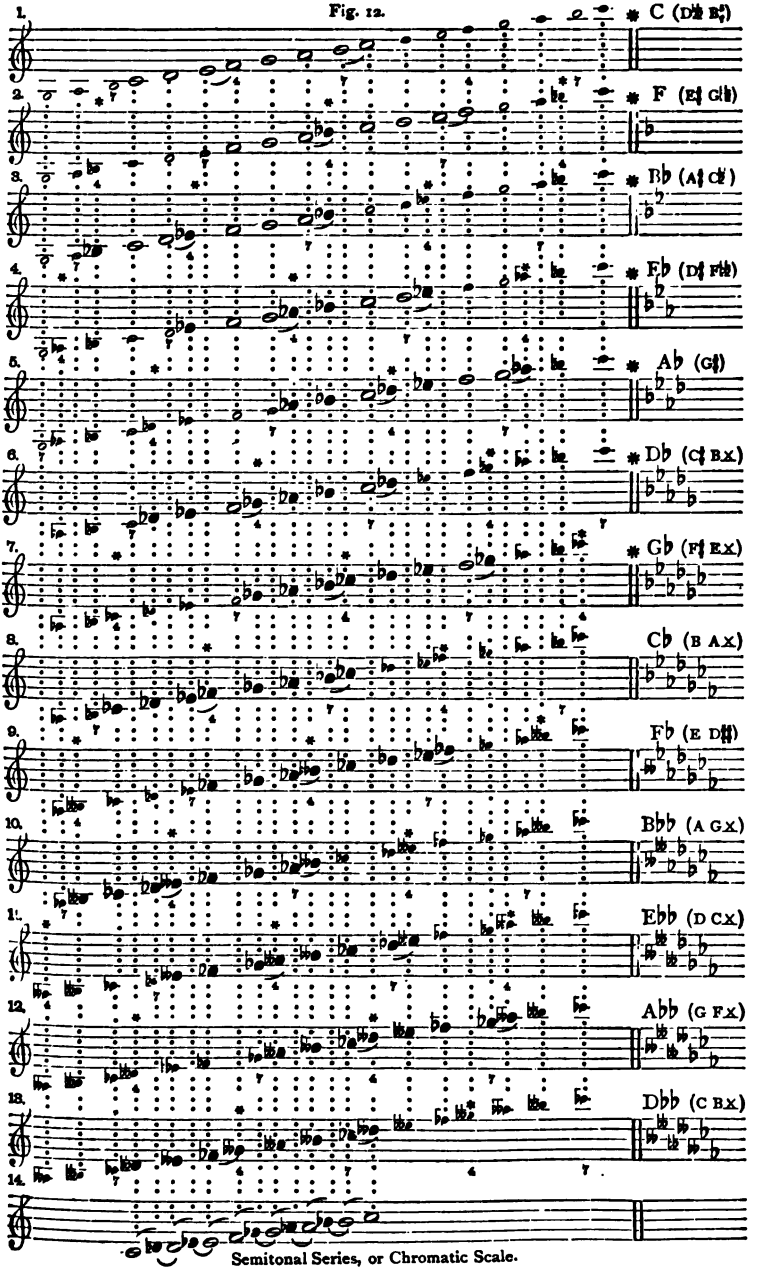
37. (1) That since the scale consists invariably of a fixed order of five tones and two semitones—no interval smaller than this last named being admitted in its for-

Fig. 11.



Semitonal Series, or Chromatic Scale.

Fig. 12.



Semitonal Series, or Chromatic Scale.

mation—the construction of scales, whether by the process of (*a*) elevation or (*b*) depression, can yield no more than five additional and entirely fresh sounds, which, being arranged stepwise, produce, by the division of each of the several *whole* tones of the original scale into two equivalent *semi*tones, a purely semitonal series of twelve sounds. (See the lowest staves of figs. 11 and 12.) And (2) that after the formation by either process —whether taking, *i.e.*, the order of ascending fifths, or that of fourths—of *twelve* derived scales (exclusive of the original), a return is virtually made to the point of departure.

See the thirteenth staves in figs. 11 and 12, headed respectively B♯ and D♭♭, in which, although a different mode of stave representation is employed, the intended sounds are seen by the vertical dotted lines of connection to be *identical* with those of the first stave headed C.

38. (3) It follows from (1) and (2), that of the total number of scales comprised of the original, together with those derived by the two opposite processes of elevation and depression—and one name being selected for each—since only twelve are founded upon practically *distinct* sounds, the remaining thirteen must differ only in *designation* or mode of *representation*, being in other respects, and so far as their component sounds are concerned, actual *duplicates* of some of these twelve.

Figs. 11 and 12 distinguish by asterisks the scale forms to whose employment musicians, for reasons to be given subsequently (Chap. XII.), commonly restrict themselves.

To each scale is affixed, in addition to its own, the names (in brackets) of those with which it is practically *synonymous*. Thus, to take an example, the scale known as that of C, displayed upon the first stave of fig. 11, is seen to be identical with, respectively, (1) that of B♯, presented at stave xiii. of the same fig., and (2)

that of D𝄫, found upon the corresponding stave of fig. 12, and similarly with the rest.*

39. Scales, intervals, or sounds, whose ratios of vibration almost exactly coincide, and whose difference in pitch is accordingly too minute for them to be regarded as practically distinct by the ear, are said to be related *enharmonically.* Or (1) an enharmonic interval is one less than a semitone, and hence not recognised practically as a distinct musical interval. (2) An enharmonic scale is a scale containing enharmonic intervals and sounds, sometimes popularly, although erroneously, termed *quarter* tones.

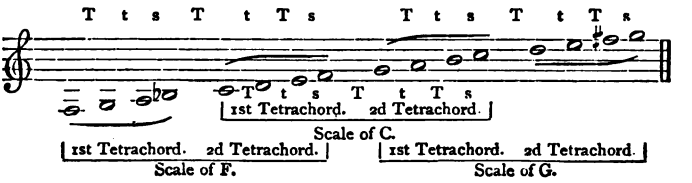
The practically identical sounds, intervals, and scales denoted in figs. 11 and 12, and alluded to in Art. 38, are therefore related *enharmonically.*

Involving in its formation, as it does, two distinct species of whole tone, known respectively as *major* and *minor* (p. 24), and occurring in the order indicated in figs. 5 and 13, in the latter of which the major tone is denoted by *capitals*, the minor by *small* letters, it will be seen that no two scales, however intimately related, consist of *precisely* the same ratios. For, to take the simplest and closest instance of derived scales, those, viz., founded upon respectively the fourth and fifth of the principal or original scale — and the principle must, it is clear, apply to all other derived scales—both the upper and the lower tetrachords of this, which are respectively the lower and the upper of the several scales of its dominant (fifth) and its subdominant (fourth), are seen to afford, in these several scales, a tonal disposition other than the normal, each form of tone being indiscriminately presented in place of the other. Yet, as was before observed, the difference between the several forms of *tone* is so inconsiderable—especially when (by what is known as the system of equal temperament) there is substituted in lieu of two distinct species of tone a ratio

* The student is recommended carefully to trace out and compare for himself the groups of practically identical scales indicated by the left hand or signature column in figs. 11 and 12.

approximating closely and delicately to each form—that, no dubiousness as to the exact ratio signified being conveyed, the intervals are commonly regarded as practically identical. (See Appendix, *Temperament.*)

Fig. 13.


T t s T t T s
T t s T t T s
1st Tetrachord. 2d Tetrachord.
Scale of C.
1st Tetrachord. 2d Tetrachord.
Scale of F.
1st Tetrachord. 2d Tetrachord.
Scale of G.

CHAPTER IV.

The Minor Mode.

THE form of diatonic scale hitherto considered—and known from the constitution of the interval of third (found between its first and third notes) of *two whole tones* as the major mode—is, as previously shown (see fig. 8), not the only possible form of presentation of which it is susceptible. Nor is it that exclusively employed in musical composition.

As before intimated, it is plain that *each* of the seven sounds of the diatonic scale may be selected in lieu of the first as principal or governing sound, to which all the remaining sounds bear reference, and compositions constructed upon this principle —and, in point of fact, this has actually been effected at the various periods of musical history. What are known as the ecclesiastical modes, or Gregorian tones (see Appendix), constitute nothing more than arrangements of the common diatonic scale, beginning successively with each of its sounds as initial (as in fig. 8), and, in the instance last-named, of short melodies constructed in obedience to this condition.

Modern musicians, however, employ but *one* mode of arranging the sounds of the diatonic scale as a basis of composition, in addition to that known as the major mode, already treated of in Chapter III., a form arrived at by selecting its *sixth* sound as a new first or governing sound.

A scale thus formed upon the sixth sound of the common or standard scale would give sounds constituting respectively the following ratios with this new first or governing sound, as compared with those of the usual scale order (fig. 14):—

Fig. 14.

Numbers of Sound.	2d.	3d.	4th.	5th.	6th.	7th.	8th.
Usual Order . .	8 : 9	4 : 5	3 : 4	2 : 3	3 : 5	8 : 15	1 : 2
Order on 6th Sound	8 : 9	5 : 6*	3 : 4	2 : 3	5 : 8*	5 : 9*	1 : 2

This new mode of disposition of the sounds of the ordinary or common scale, known from the composition of its interval of third between its first and third sounds of but a tone and a semitone, as the *minor* mode (Art. 32), is found to differ from the normal in three instances, denoted by asterisks in fig. 14; in those—viz., of its *third*, *sixth*, and *seventh* sounds, since these are the result of ratios not comprised in the original formula. Upon further examination, the three ratios in question, viz., 5 : 6, 5 : 8, 5 : 9, are recognised as in but one degree of complexity removed from those correspondingly placed in the usual scale order, or major mode. Virtually, then, so far as its *consonant** ratios are concerned, our new scale rejects that of 4 : 5, for the more pungent, because, in a degree more *dissonant* combination (forming, in fact, the verge of consonance) 5 : 6, and 3 : 5, for 5 : 8, while the well-named sensitive tone, resulting from the ratio with the key-note of 8 : 15 (a tone, by its potency upon the ear—the result of the diversified composition of its ratio with the tonic—imperatively constraining the presentation of, and hence fittingly succeeded by the simplest of all ratios 1 : 2) is replaced by the far less vehement, although dissonant, 5 : 9.

The new scale may then be expected to create an effect of a different order to the normal or type scale; an effect, too, mainly characterised by vagueness and unrest. And such an effect it is universally thought to produce. Compositions founded

* For an explanation of the terms *consonant* and *dissonant*, the student is referred to Chap. XVII., as well as to their application in the classification of intervals afforded in the Graduated Table, p. 18.

upon this mode of the scale, whether expressing any of the shades of feeling between despair and *abandon*, between intense grief and reckless gaiety, are invariably employed to portray the *sorrowful* emotions, since the mode in question is held to be eminently suggestive, even in its predominating consonant combinations—those, viz., of *repose*—of an ever-pervading yearning or unrest.

40. In order, while still retaining, and even rendering more emphatic, its distinctiveness of character, to remove the inherent indefiniteness and looseness of connection of the minor, apparent from its contrast in an unaltered form with the preponderating, and universally regarded as normal major mode, certain modifications are adopted in musical composition.

41. These modifications are as follows :—

(1). The substitution for its seventh sound (the *fifth* of the original major series) of a sound higher by a semitone, and thus forming a true leading note.

See fig. 16 (*b*), where the 7th of *substitution* is denoted by a black note, that of *rejection* by an asterisk.

This alteration, used melodically in both ascending and descending passages, has for its object, by effecting a closer analogy to the ordinary major series, the more complete fixation and distinct separation of the mode of the lesser third, by causing its sounds to refer more unmistakably to the first or governing sound, and thus achieving the gratification and satisfaction of the modern ear, accustomed as this is to the decided alternation of sound-ratios essential to the normal major mode.

The function performed by this alteration of the seventh of the minor mode will be more clearly seen from subsequent harmonical considerations.

The adoption of the altered seventh of the minor mode necessarily involves the substitution in lieu of the vaguer 5 : 9, of the new ratio 8 : 15—that, viz., of the well-named sensitive or leading note.

(2.) The substitution for its sixth sound—sound *four* of the major series—of a sound higher by a semitone.

See fig. 16 (*c*), where the 6th of *substitution* is denoted by a black note, that of *rejection* by an asterisk.

This alteration which is, in its employment, exclusively, although not invariably, attendant upon that of the seventh sound just cited, has for its object the banishment of the heterogeneous, because exceptionally complicated ratio—considered relatively with its neighbours—of 64 : 75—a ratio resulting in an interval comprised of a tone and a half—that would otherwise be found between the sixth and seventh sounds (fig. 16 (*b*), and its replacement by one (8 : 9) more uniform, and in keeping—considered from a melodic point of view—with the several others of the diatonic scale.

Although the minor mode not unfrequently occurs with the modified seventh alone, and unaccompanied by the altered sixth, still the exceptional interval between the sixth and seventh sounds, and denoted by the ratio (64 : 75) is found, like all those not proper to the common scale, difficult of production in melody.

Fig. 15.

	C	D	E*	F	G	A	B	C
Major Mode.	1	9 : 8	5 : 4	4 : 3	3 : 2	5 : 3	15 : 8	2 : 1
Minor Mode.	1	9 : 8	6 : 5	4 : 3	3 : 2	5 : 3	15 : 8	2 : 1
	A	B	C*	D	E	F♯	G♯	A

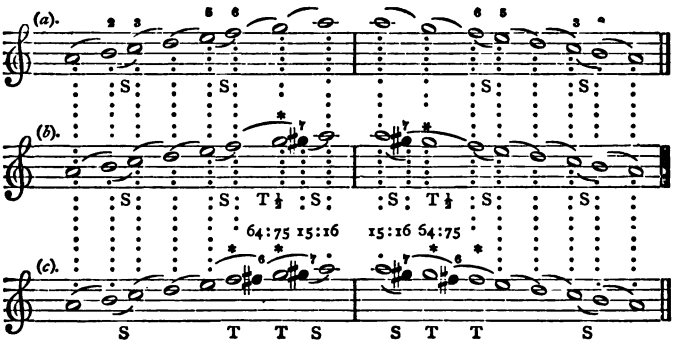
Fig. 15 exhibits the order of ratios with the first or key sound resulting from the use of the altered sixth and seventh of the minor mode, an order, it will be seen, differing from that of the major mode in only one instance—that, viz., of the *third* constituent ratio.

Since the necessity for the substitution of a new leading note is most imperative in the case of passages ascending to the first or governing sound (key-note), or one of its octaves, this substitution is not unfrequently dispensed with, and the modal series left in its unmodified form in passages of descent (fig. 16 (*a*). The modification, then, of the minor mode, presented in the alteration of both its sixth and seventh sounds, is more frequently found in *ascending* than in *descending* passages of melody.

In fig. 16 are presented the three forms of the minor mode of the scale employed in music—viz., at (*a*), the old, unmodified

sequence, known formerly as the Eolian mode (Appendix), at (*b*), the form comprising the altered 7th, accepted from harmonical considerations by many theorists as normal, and at (*c*), that characterised by the presence of both the altered 6th and 7th.

Fig. 16.



42. The correlative modes of a scale, inaugurated respectively by its 1st and 6th sounds, are commonly known as *relative* modes, each being designated with regard to the other as the relative major or minor of this, according as it is itself modally constituted.

CHAPTER V.

The Chromatic Scale.

43. THE additional sounds resulting from the process of substitution employed in the formation of the series of major scales, if placed as intermediate between those of the original diatonic scale, have the effect, by dividing each of its several tones into two semitones, of transform-

ing this into a series of twelve semitones (Art. 37 (1). (See the lowest staves of figs. 11 and 12.)

It is evident that these additional sounds may be regarded from either of two points of view—viz., either (1) as *essential* or *diatonic* in some one or more of the several derived scales, or (2) with reference to the original scale itself. Considered from this latter point of view—viz., with reference to the original scale—the sounds in question, as introducing thereinto new *relations* and hence *effects*—new shades or tints, as it were, of tone—are appropriately termed *chromatic* or *colouring* sounds (a term derived from *chroma*, colour, and, although used by them with some difference, retained from the old Greek theorists), and the whole series constitutes a *chromatic scale.*

44. A chromatic scale may be defined to be one comprising sounds standing in a different ratio to the first or key-note, than do the sounds of its diatonic scale.

The lowest staves in figs. 11 and 12 furnish examples of regular chromatic scales.

45. A chromatic interval is an interval one or both of whose component sounds is chromatic.*

46. A chromatic scale may be formed upon any sound whatever, or, which is the same thing, any diatonic scale may be *chromatically altered.*

47. Any diatonic interval may be rendered chromatic (chromatically altered) by the substitution for one of its sounds of another either higher or lower than this by a chromatic semitone.

The interval known as a chromatic semitone (24 : 25), and occurring between a sound of the diatonic scale, and one standing thereto in the ratio (24 : 25, *i.e.*, 120 : 125) is not in strict accuracy identical with, but somewhat less than, that known as a *diatonic* semitone (15 : 16 or 120 : 128), and occurring between two essen-

* For a list of chromatic intervals, see Graduated Table, p. 18.

tial sounds of the diatonic scale. The difference (125 : 128) between the several ratios being, however, ***enharmonic*** — in fact, unless two sounds involving the difference be presented slowly and carefully in succession, almost imperceptible by the ear, the two intervals are regarded as practically identical (Art. 39).

48. As a consequence of the fact that scales may be formed upon any one of the twelve sounds of a chromatic scale, it follows that the diatonic sounds of one key become the chromatic of another. They are chromatic only, however (using the term strictly), when their musical context unmistakably indicates their use in a key other than that of which they form diatonic constituents.

49. Of two diatonic keys, any of the ***characteristic*** sounds of one key—those, viz., not found in the key to be ***chromatically altered***—may be employed as chromatic in the other, subject, however, to the conditions of progression prescribed by the laws of harmony. (Chap. XXIII.)

It follows from the nature of the combined function of sounds as respectively diatonic and chromatic, resulting from a restriction to twelve distinct keys, that the chromatic sounds and intervals of one scale will coincide in every case with certain diatonic sounds and intervals of another, a fact easily seen upon a keyed instrument such as the pianoforte. Such coincidence, however, results solely from the exigencies of practice, and as a consequence of the fact that no music can exist perfectly in tune—*i.e.*, formed of absolutely pure ratios. (Art. 39.) Strictly speaking, the ratios of sounds introduced into a diatonic scale by way of chromatic alteration or, to speak more correctly, substitution, are in constitution more intricate and varied than the pure and comparatively simple diatonic ones of the scale (see Graduated Table of Ratios, p. 19), and the approximation to strict ratios, as in the case of diatonic sounds, so in that of chromatic, is in every respect adequate for the actual relation intended. Whether a sound is diatonic or chromatic is, in all places, determined by the *context;* and the same combination or succession will produce a vastly different effect consequent upon the choice of its mode of employment, and as a result—these being ascertained from its context—of the signified ***relations.***

CHAPTER VI.

Intervals.—§ 1. Inversion and Designation of Intervals.

NOTE.—In connection with the following chapter should be studied Chapter I., § 5.

50. THE mutual relation of any two sounds, with respect to pitch, is termed an interval, or, familiarly, an interval is the difference between two sounds—the distance, *i.e.*, from one sound to another—in height or depth (Art. 10).

In seeking to inquire more at length into the nature of the construction of the common or normal form of the diatonic scale, it will be necessary to recur to the Graduated Table of Musical Ratios (p. 18), a glance at which—and in a far greater degree the performance of the actual intervals themselves—will show the order of their relative complexity to be also that of the degree of mutual difference or dissimilarity suggested to the mind between the constituent terms of the several pairs of sounds, and hence of individuality, relatively considered, of the items or sounds themselves of which these pairs are composed. The ultimate physical cause of this disparity and this individuality must, therefore, be found in the nature of the relation between, in each instance, the several producing rates of vibration. When this ratio is simple (as *e.g.*, binary), the flow of the two streams of vibration is so smooth, the perception of the mutual relation so easy, that the ear is subjected to comparatively no effort beyond that of mere reception or imbibition, the related sounds are at once perceived to agree. When, on the other hand, the relation is one of a degree of intricacy—the rates of vibration less commensurate—the ear finds itself continually arrested or pulled up to an effort of comparison, and an effort which, while moderately used, serving to pique by its variety, it is felt must be only temporary, and of a duration proportioned to the degree of such strain, *i.e.*, to the difficulty and labour involved in the effort of perception.

A glance at the Graduated Table (p. 18) shows the influx of strain upon the ear and mind involved by the several ratios

(intervals) to be graduated therein with respect to intensity, almost imperceptibly and to a shade—the prime agent in this process, as it were, of *shading*, or laying on successive tints, being afforded in the *quasi*-neutral character of the octave relation. And the influence of this octave element is manifested, in a twofold manner, as demonstrated in Arts. 17 and 18, viz. (1), in the introduction of ratios in but the finest degree differing from others already expressed, as, for instance, of 1 : 4, 1 : 8, 1 : 16, compared with 1 : 2, the original mutual attitude of the constituent terms of the ratio (the sounds, *i.e.*) as respectively higher or lower, remaining invariably the *same;* and (2) in the presentation of ratios of a somewhat more intricate structure, resulting from a similar employment of the octave relation, attended, however, by this important difference —the difference, viz., involved in the *inversion* of the original mutual attitude of the terms, the sound which, in the first instance, was the *higher* becoming the *lower*, and *vice versâ*.

51. Intervals then are subject to *inversion*.

By the *inversion* of an interval is meant the substitution (while retaining one of its component sounds) of a sound for the other standing in a relation to that retained of a degree of simplicity by one degree only removed from that occupied by the originally rejected sound, the operation resulting, of course, in the production of a ratio or interval of the next degree of simplicity or complexity to that existing before the inversion. Now, the process here enunciated can be effected only when the sound fresh selected is one of the *octaves* to the discarded sound.

52. Familiarly, the inversion of an interval consists in the substitution of either the lower octave of its higher sound, or the higher octave of its lower sound, in place of, in each case, respectively, the actual sound in question itself.

53. When in its normal position and uninverted, an interval is termed *direct*.

The nature of the process of inversion, and of the function performed in its attainment by the octave element, is clearly exhibited in the second and third columns of the Graduated Table

(p. 18), of which the former comprises illustrations in music type of each species of interval in both direct and inverted position, the latter the ratios by which the several pairs of mutually related intervals are produced.

54. The intervals formed by the various sounds of a scale commonly receive, like the sounds themselves, a numerical designation. Intervals are named, in the first instance, after the total number of regularly following scale sounds, which, if such sounds were actually inserted, they would respectively comprise, reckoning with these the expressed sounds forming the interval themselves.

Thus the interval between the first and sixth sounds of a scale is termed a *sixth*, and similarly the interval between the second and seventh, the third and eighth, &c. (fig. 17 (*e*), since the aggregate number of scale sounds, either expressed or understood, is in each case *six*, while the interval between respectively the first and third, the second and fourth, the third and fifth, is denominated a *third*, as involving, if these were filled up, only *three* scale sounds (fig. 17 (*b*).

55. Intervals like their component sounds are either diatonic or chromatic.

§ 2. Diatonic Intervals.

56. A diatonic interval is one formed of sounds selected from a diatonic scale.

57. Adopting the mode of designating intervals according to the number of following scale sounds which, if inserted, their extreme sounds would embrace, the intervals of the diatonic scale are known respectively as seconds, thirds, fourths, fifths, sixths, sevenths, eighths or octaves, ninths, tenths, elevenths, &c., all within the octave being denominated *simple*, beyond it, *compound* intervals. (Fig. 17.)

Fig. 17 affords a list of all the simple, and a few of the compound, diatonic intervals, exhibited by means of the simplest notation in common use. By the aid of the specimens here afforded of the compound intervals, the student will easily proceed to the construction and recognition of the several other varieties.

INTERVALS OF THE DIATONIC SCALE.

I. SIMPLE.

Fig. 17. (*a*). 2ds.

(*b*). 3ds.

(*c*). 4ths.

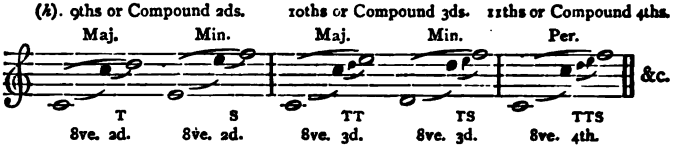
(*d*). 5ths.

(*e*). 6ths.

(*f*). 7ths.

(*g*). 8ths or 8ves.

II. COMPOUND.



58. The compound intervals are frequently designated after the simple intervals of which they respectively constitute the extension by an octave. Thus the ninth is often termed a compound second, the eleventh a compound third, &c. (fig. 17). The names ninth, eleventh, thirteenth, are, however, from harmonical considerations, in common use.

See fig. 17, II., where the constitution of the *compound*, as respectively forming an extension by an octave of the *simple* intervals, is indicated by, in each case, a *black* note.

59. Since the diatonic scale consists of seven perfectly distinct and separate sounds, the octave forming essentially a *reduplication* of the first; and since each of these, individually considered, may be combined with each of the others, it is plain that this formula furnishes seven instances of each species of interval, as seven seconds, seven thirds, &c. Many of these are, however, exact repetitions or duplicates—as a consequence of identity of ratio—of each other (see page 23, and fig. 17).

60. An orderly examination of the several intervals of the diatonic scale shows it to afford two distinct species or *qualities*—a larger and a smaller, respectively—of each of the intervals above numerically designated (Art. 57), with the exception of the octave. There is but one species of octave.

See fig. 17, where these two distinct species or qualities of each variety of interval are respectively denoted, the former by slurs *above*, the latter by slurs *beneath*, the notes.

61. Adopting the most universally used mode of denomination, the seconds, thirds, sixths, and sevenths are termed either major (greater) or minor (lesser), the fifths, perfect and imperfect, the fourths, perfect and pluperfect. The several species or qualities of each description of interval are discriminated as differing in extent by a *semitone*, major intervals exceeding minor, perfect exceeding imperfect, and pluperfect exceeding perfect by this extent.

For the exhibition of this semitonic difference, or difference in *quality*, together with an exemplification of the nomenclature here adopted, see Graduated Table, and also fig. 17.

§ 3. Chromatic Intervals.

62. A chromatic interval is an interval one or both of whose sounds is chromatic. (Art. 45.)

63. Chromatic intervals are formed from the corresponding diatonic by the addition or the subtraction of a chromatic semitone (24 : 25). They are, moreover, numerically designated (as 3ds, 5ths, &c.) after the diatonic intervals of which in each instance they constitute (by way of substitution) the chromatic alteration.

64. Chromatic intervals are discriminated, in among other ways, as being either *augmented* or *diminished*. If the chromatic interval be formed by the *addition* to its corresponding diatonic of a chromatic semitone, it is termed augmented; if by the *subtraction* of such semitone, diminished.

65. Any of the intervals of a diatonic scale may be either augmented or diminished.

For a complete list of the intervals, diatonic and chromatic, with their several ratios, extent in semitones, various modes of nomenclature, &c., see Table, pp. 18, 19, a consideration of which will show that, upon inversion, the *character* of an interval, as respectively consonant or dissonant, remains unchanged, although (unless such interval be perfect) the *quality* is altered, since *major* intervals become *minor; perfect* remain *perfect; imperfect* become *pluperfect; augmented diminished.*

DIVISION II.—RHYTHM.

CHAPTER VII.

Duration. § 1. The Nature and Function of Musical Rhythm.

66. By the rhythm of a musical sound is understood both the extent of its duration and the degree of force or stress with which it is produced.

Rhythm, although not peculiar to music, still imparts thereto in a high degree its unity of character, and constitutes, pre-eminently, the source of its intelligibility, animation, and vitality. Musical rhythm consists in the symmetrical application to musical sound of the elements of duration and force. Devoid of the presence of this great attribute, musical sound resembles bone and sinew bereft of life, since lacking the inspiring principle from which springs alike its beauty and its power. The potency of rhythm as an active musical principle is well seen from a consideration of what would result from its absence, if indeed it be possible to imagine musical sounds without reference to (1) their occupation of a certain lapse of time, (2) their succession or non-succession by others at measured intervals, or (3) their delivery with a greater or a less degree of force.

The iteration of a dull series of isochronous sounds without relief of any kind, or one of sounds succeeding each other indiscriminately, and without sense of order or proportion, would be rejected, so to speak, by the ear as either nauseous or bewildering. On the other hand, the design, thought, or intention evinced by a well-ordered, justly and definitely proportioned, and, so far as duration and emphasis are concerned, sharply-cut musical succes-

sion, constitutes at once a satisfaction to the ear and a source of pleasure.

67. Rhythm is the determinative principle of *form*—the *plastic* element in music—an element upon the importance of which generally in artistic production it is needless to expatiate.

The importance and the power of modification exercised by this great law, when applied to the element of musical sound (tone), may be easily and effectively illustrated in the performance of any well-known familiar fragment of melody (1) as far as possible *isochronously*, *i.e.*, with the assignment of equal duration and force to each of its successive component sounds, and (2) with an order of relative duration and force, or even of this latter *alone*, different from the normal. By the practice of either of the methods indicated in (1) and (2), a melody may easily be made unrecognisable by even its own composer.

§ 2. Relative Duration. (a.) Sound.

68. The duration of a musical sound, or how long it lasts, may be regarded as in nature either (1) relative or (2) absolute.

69. By the *relative duration* of a sound is signified how long it lasts, compared with some other sound; by its *absolute duration*, the exact period of its continuance as determined by a recognised standard of time-measurement, such as, *e.g.*, a clock or a watch.

The integral principle of relation or proportion which constitutes a main essential of all art—without which, indeed, art can have no existence—is not confined, so far as music is concerned, to the regulation of the ultimate physical origin—the substance, so to speak—of musical sounds. As in the case of their component *vibrations*, so in that of their *continuance* or *term of duration*, sounds stand to one another in certain definite and simple relations. *And the simpler the relation, the more frequent is it in recurrence.*

The relations of the *rates of vibration* resulting in musical sound

are all expressible (as we have seen) by numerical ratios whose terms are constituted of the prime numbers as far as 5 inclusive, or of the multiples of these, the simpler ratios being those of most frequent presentation (Chap. I., § 5).

The ratios of the *relative duration* of sounds include a more complicated selection, as involving, in addition to the binary, ternary, and quinary relations, those also of the septenary, or collection of ratios with terms involving the prime number 7, together with ratios resulting from other prime numbers and their multiples, as, *e.g.*, 11, 13, &c.

In this connection it may be remarked that any practicable duration whatever, for purposes of variety, and if justified by the context, may be employed. For the attainment of a necessary diversification, moreover, a number of additional resources present themselves. For example, (1) the occasional and exceptional substitution may be effected of irregularly constituted groups of

(*a*)	5	sounds	for	(and having	the duration	of) 4
(*b*)	7	,,	,,	,,	,,	4 or 6
(*c*)	9	,,	,,	,,	,,	8 or 6
(*d*)	10	,,	,,	,,	,,	8 or 4

and (*e*), generally, of any irregular for a normal and regular section, the process admitting of analogous extension as may be desired. (2) The relative tonal duration may be determined solely by the discretion and skill of the executant, as called forth in the due delivery of the wedded *words*, as in the species of composition termed *Recitative*. (3) The duration of (*a*) single sounds, or (*b*) whole and more or less extensive successions, may be indefinitely prolonged or curtailed.

These cases of irregular and of indefinite durations are, however, to be regarded as exceptional, the presentation of definite, and of these the simpler durational ratios, being the rule.

70. It may be laid down as a general rule that the ratios of *duration* of musical sound, although admitting a larger number of primes in the constitution of their terms than do those of *vibration*, still, like these latter, receive employment with a degree of frequency directly proportionate to their relative simplicity.

The binary and the ternary relations are by far the most commonly employed.

(b.) Silence.

It is a necessary condition to the successful attainment of musical effectiveness that there should exist a suitable alternation of sound and silence. Music, however diversified in the resources presented either by its mode of construction—with regard, *i.e.*, to the pitch, duration, force, and quality of its sounds—or by those comprised in its presentation in performance, and however skilfully such resources may be developed, if continued without break or intermission of any kind, becomes, after a time, monotonous, and ultimately increasingly distasteful in its effect upon the ear and mind.

The intervals or durations of silence or cessation of sound which have for their object, by their appropriate alternation with those of actual and continuous sound, the attainment of a necessary relief and variety, are subject to precisely the same rhythmical laws and conditions as are the corresponding successions of sound—tonal successions—amongst which they are interspersed.

§ 3. Measure—Time.

A further mode of application of the principle of proportion or relation in the regulation of the duration of sounds, beyond that involved in their constitution as aliquot parts or multiples of each other, is found in their disposition and regular succession in groups or collections of uniform continuance; in short, in the orderly and symmetrical arrangement of their several ratios of duration.

71. The relational groups into which sounds are arranged for musical purposes are of various kinds. The smallest, as being contained so many times in the larger, and thus affording a convenient and distinct unit of measurement for the gauging of these, is termed pre-eminently *a measure*. The term bar (Art. 160), applied to the notational boundaries of the measure, is also commonly, by a figure of speech, extended to signify this latter itself.

72. All music is divided into bars or measures. In each case a durational ratio or term of relative duration

being selected as normal, a composition is made up of a uniform succession—so far as continuance is concerned—of duplicates of these.

The durational partition of music into a uniform succession of bars or measures finds a species of counterpart in the quantitative division of poetical verse into its constituent feet. A degree of analogy exists between, in poetry, quantity and the foot, and in music, relative duration and the measure. (See Art. 96.)

The *barring* of music—its partition into regular measures—forms an application of the principle of *order* to what would otherwise constitute an indiscriminate presentation of the several durations, respectively, of sound and silence.

Fig. 18.

(c) Of 4 Triple Measures.

73. The division of music into bars is commonly designated *time* (Art. 82).

74. Time is either duple or triple, according as it is based upon the binary or the ternary relation. Each of these classes may be again further divided into simple and compound.

For examples of the several varieties of measure respectively constituting the various species of time, see fig. 18.

Since the bar constitutes pre-eminently a measure by which to gauge the symmetrical construction of a composition, it is natural to find it based upon the fundamental principle of relation or proportion. The relations upon which the construction of bars is based, and which they serve to represent, are, as in the case of the single sounds themselves which go to make up the bars, respectively the two of greatest simplicity, and known as the binary and the ternary relations. (See fig. 18.) The binary relation, as the basis of musical measures, produces duple, the ternary triple time. Compound time consists in the use of measures resulting from a combination of two, three, or four simple measures. Compound *duple* results from a combination of simple measures (whether duple or triple) based upon the *binary*, compound *triple* from a combination based upon the *ternary* relation. (Fig. 18.)

Occasionally, and for purposes of special effect, irregular bars, consisting of five, and even of seven, equal parts—the former being based upon the quinary, the latter upon the septenary relation, have been employed as the basis of composition. Since, however, the measures founded upon the simple, and universally recognised as normal, forms of measure, appeal more forcibly to the general ear than would those which, as being based upon

more advanced primes, necessitate a corresponding increased complexity of structure, and hence difficulty in discrimination, the use of these latter must be regarded as strictly exceptional.

75. It follows from (Art. 74) that bars of duple time are most naturally divided into *two*, those of triple into *three* equal, or, as they are termed, *principal* parts (fig. 18).

76. The sound selected as a unit of measurement or formation in the constitution of a measure is termed a *part.*

In fig. 18 the parts of the measure are represented by the several notes.

77. Parts of a bar or measure are either principal or subordinate. In simple measures the subordinate parts are obtained by subdividing the principal. In compound measures (since formed by aggregation of simple) the principal are those of the component *simple* measures; the subordinate, those obtained by (as in the case of simple measures) subdividing the principal. Subordinate parts are capable of a still further subdivision into subordinates of a second, and these into subordinate parts of a third degree, and so forth.

78. It is not requisite, nor indeed is it, except for purposes of special effect, in any way desirable, that measures should be uniformly composed of durationally the same kind and number of sounds. Provided its equivalent value be in every instance secured, it is a characteristic feature of the measure that it may consist of any species of sounds or of intervals of silence (denoted by rests, see Art. 150), or of both, and arranged in any order whatever.

Hence the *essential* sounds of a measure (its *principal* parts, *i.e.*) may be superseded by equivalent groups of shorter aliquot sounds, such aliquot sounds constituting what are known as *subordinate*

parts, or subordinate parts of the first degree; and these subordinate parts may be still further divided, and the parts resulting from this division also in their turn divided into other subordinate groups of respectively a second and a third degree, and so on, as far as convenient, the groups resulting from this process of subdivision of parts occupying most frequently either the binary or the ternary relation.

Fig. 65 affords an example of this subdivision of parts, the original sound being successively replaced by subordinate groups of respectively a first, second, &c., up to a fifth degree.

Compositions do not invariably begin with a *complete* measure. Accordingly, for purposes of measurement, the term measure is extended in signification to denote the *equivalent* for a measure, whatever sound thereof, whether first, second, &c., be selected as initial. (Arts. 97, 100.)

79. The durational value of a complete measure having been determined, it is essential that all bars in the same movement be in extent equivalent thereto (Art. 72).

For purposes of special effect, however, as, *e.g.*, the attainment of a more perfectly symmetrical arrangement, or for the due enforcement of particular words, progressions, &c., interspersion is occasionally, though very rarely, made of a measure of a different species—the occurrence being, in fact, so exceptional as to serve only to prove the rule.

Although the rule as to the division of musical compositions into bars or measures (Art. 72) is absolute, admitting of scarcely an exception, it by no means follows that compositions are written throughout in—*i.e.*, involve throughout their whole extent the use of—one and the same species of measure. For purposes of variety the species of measure is often *changed*, a succession of duple being succeeded by one of triple bars or *vice versa*, and this is sometimes done more than once in the same movement. As a general rule, however, changes of measure—when made—occur only at the termination of considerable sections of a movement.

§ 4. Absolute Duration.

It has been laid down as a first and fundamental principle that a main function and object of music consists in the expression of

feeling. When to this is added the general law that the various conditions of feeling and emotion receive severally, in the case of animal organisations, appreciable manifestation by corresponding and appropriate diversities of motion (exhilaration, and excitement, *e.g.*, on the one hand, producing an accompanying animation and quickening in animal movements, while on the other, sorrow and dejection effect therein an answering retardation and torpidity of action), it follows that the absolute *pace* or *rate* of *movement* at which a musical composition is taken, whether regarded in its normal entirety, or in the numerous fluctuations dictated by the subtle changes and transitions, by which feeling is distinctively characterised, constitutes an integral element in the formation of its peculiar character or style.

80. Musicians recognise a threefold cardinal gradation in absolute pace or rate of movement, such gradation being, moreover, capable of both a primary and a secondary subordinate diversification.

81. The threefold gradation of rate of motion generally regarded in music as fundamental comprises

(1) Slow motion.
(2) Medium motion.
(3) Quick motion.

82. A primary extension of the above gradation by way of subdivision, and including extremes, results in

(*a*) The slowest motion.
(*b*) The quickest motion.

The absolute pace of a movement is often designated by the term *time* (*tempo*), and in this connection a composition is said to be taken in quick *time* (Art. 73), or at a quick, a slow, or a moderate *tempo*.

83. By a still further and secondary subdivision, each of the foregoing principal species of motion is capable of presentation in a nicely graduated variety of approxi-

matory paces, suitable to the expression—by way of indication or suggestion — of corresponding and subtle fluctuations of feeling.

CHAPTER VIII.

Force. § 1. Relative Force—Accent.

IN addition to the *duration* of sounds, the existence of rhythm necessitates the further element of force, whether this be regarded as *relative* or *absolute.*

84. The terms emphasis and accent are applied, but not interchangeably, to designate the *relative* degree of stress or force with which musical sounds are enunciated.

85. The main distinction between emphasis or the *rhetorical* and the ordinary or *grammatical* accent seems to consist in the fact of the latter being employed to denote that regular and continuously recurring stress without which rhythm can neither have actual nor appreciable existence, while the former receives application in the case of a more exceptional and exalted degree of force imparted only occasionally, and for the production of some marked or special effect.

86. A prime function of relative force, whether in the form of emphasis or of accent, is to make apparent—to lay bare, as it were—the symmetrical sequence of rhythmical relations of which a musical composition consists. Indeed no other suitable means exists by which such symmetry can be exposed for discrimination and perception by the ear.

(1.) The Grammatical Accent.

87. The initial or first sound of a measure, simple or compound, receives the strongest accent. (See fig. 18.)

88. Of a group of two or three sounds of equal value (binary or ternary group, *i.e.*), occupying either (1) a *principal* or (2) a *subordinate* part of a measure, the first is accented, the others unaccented.

It follows from this, that (1) in simple time, whether duple or triple, the first of the two or the three sounds—principal parts—into which the measure may be most naturally divided (Art. 75) is accented, the others unaccented; and (2) since a measure may be formed by a combination of any number of sounds or of intervals of silence, and arranged in any order, provided only such contents of a measure do not exceed in duration collectively its normal extent, that of the possible equivalents obtained by the substitution for any of the single sounds (durations or principal parts) of a measure, of a group resulting from the subdivision of such duration, the first is accented, the others unaccented.

(3) In compound time (resulting as it does from the combination of simple measures) the initial tones of such measures (principal parts) retain their relatively strong accent with regard to the other tones of such constituent simple measures by (Art. 87); but, by the same rule, this accent will be weak as compared with the first of the now compound measure. See the relative degrees of accent marked in fig. 18.

It will be noticed that, so far as accentual order is concerned, the results presented by (1) the aggregation of simple measures forming compound measures, and (2) the subdivision of simple measures, are precisely similar; for

(*a.*) In both cases is the chief accent relegated to the first or initial note of the measure.

(*b.*) In both cases are there found assigned accents—viz., (1) to the notes formerly initial in the simple measures, but now initial only of *groups* within the bar, and (2) to the notes standing first in each group presented as equivalent substitutes for the original undivided sounds (whether two or three) of the normal form of the simple measure, which accents, although subordinate by (Art. 87) to the paramount initial accent of the bar, are yet, by (Art. 88) *principal*, when compared with, in each case, the other constituents of their respective groups. For an illustration of the foregoing rules (Art. 87, 88), as applied respectively in the subdivision of duple and triple measures, simple and compound, see fig. 77.

(2.) Emphasis or Rhetorical Accent.

The rhetorical accent—generally distinguished in music as emphasis—imparted to sounds over and above the stress denoted by the normal or grammatical accent, may, it is plain, either coincide with the order of this or differ therefrom. Or in other words, either a normally accented or a normally unaccented sound may be rendered emphatic.

As a rule the emphasis here denoted is applied to *one* sound in each musical phrase, which in vocal composition should be that to which is allied the most emphatic word.

In the relegation of the rhetorical accent (or emphasis) the normal or grammatical accentual order is, occasionally, and for purposes of variety, departed from; but these deviations serve only to mark the regular accentual and durational partition of a movement, and to intensify the emphasis itself the more strongly.

Instances of the emphasis accompanying a departure from the normal order of bar accents are furnished by what are respectively known as (1) syncopation, (2) rhythmical inversion.

89. (1.) Syncopation consists in the prolongation of a sound from a weak or unaccented to a strong or accented portion of a measure.

90. (2.) Rhythmical inversion, either (*a*) in the continuous and uninterrupted employment of syncopation on successive sounds, or (*b*) in the presentation of the strong accents in the form of shorter, the weak in that of longer notes.

In both cases the actual effect produced as a consequence in (1) and in (2 *a*) of the suppression of a separate indication in performance of the strong part, and in (2 *b*) of the long duration of the unaccented sound, is the presentation of the weak or unaccented sound as *emphatic*, the emphasis being rendered prominent by the performer.

§ 2. Absolute Force.

The actual degrée of force regulating the delivery of a musical passage or phrase, or entire movement, for which, however, there

exists no absolute gauge or standard of measurement other than that afforded by the judgment and taste of the performer as applied to the effective capacity of the vehicle of production—whether voice or instrument—forms an important element in the evolution of what may be termed the *chiaro oscuro* of a musical composition. The attainment of a due light and shade is on this account of great value, as conducing very materially to the acquisition of a necessary variety and relief, and hence as affording evidence in a musical work of artistic point or design.

The bulk of a piece of music is commonly rendered with a *medium* degree of force. The degree of loudness, force, or intensity of a musical sound, depends directly upon the extent or amplitude of the vibrations which serve to produce it.

91. Three principal degrees of absolute force, loudness, or intensity, denoted respectively by the terms *soft*, *loud*, and *medium* (or their equivalents), are generally recognised.

The primary extension of this fundamental classification of absolute force includes the extremes of *very soft* and *very loud.*

The change from one to a different degree of force, may, it is plain, be either (1) *instantaneous*, *i.e.*, definite and well marked by its occurrence at a fixed point of time, or (2) *gradual*, involving a process of subtle shading as it were—a gradual increase or decrease (swell), *i.e.*, of force from one degree to another, as from soft to loud, or *vice versâ.*

By the employment of the gradual method indicated in (2), and whose use seems to form a distinctive characteristic of modern music as distinguished from that of the old masters, effects of great power and intensity are produced.

CHAPTER IX.

Higher Rhythmical Divisions.

The main function of the measure consists, as we have seen, in its capacity as indicator of the regular and symmetrical application of the principle of proportion or relation to the duration,

and to the degree of stress (emphasis, or accent) of musical sounds, and thus, as its name implies, as a unit of *measurement* for the entire composition. The measure is the smallest complete rhythmical division.

By the aggregation of measures, and the consequent production of larger rhythmical divisions, there is seen to result a still further and more extended application to musical rhythm of this great principle of relation.

92. Higher rhythmic divisions than the bar or measure have received the designations respectively—taking these in ascending or synthetic order as units or members of musical construction—of (1) the foot, (2) the phrase, (3) the section, (4) the period. The following terms of more general application—viz., (1) passage (*a*) run or running passage, and (*b*) bravura passage, or roulade, and (2) strain are also employed.

The whole of the foregoing divisions, excepting, perhaps, the foot, are also often designated, indiscriminately, by the terms, clause, member, or phrase.

§ 1. The Passage.

93. By the term passage is understood, technically (1), any melodically-constituted succession of tones whatever; (2), a somewhat extended sequence of *quick*, involving a large proportion of *durationally equal*, tones. (Fig. 19.)

Fig. 19.

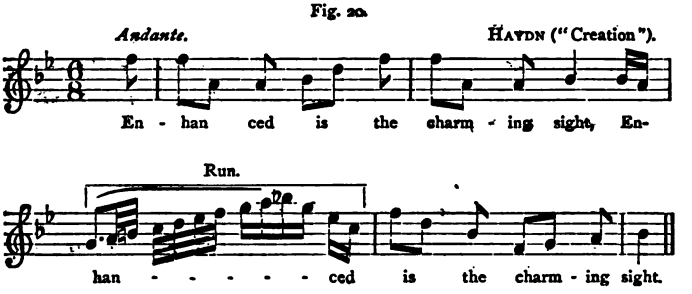
HANDEL ("Messiah").

A passage is commonly designated after some distinctive feature of either structure or performance. Thus, we speak of a *loud* passage, a *high* passage, a *chromatic* passage, a *horn* passage, &c.

The term is also used familiarly to include, in addition to the foregoing, and synonomously with section (Art. 101) or period (Art. 102), *any* succession of tones embodying in its connection a separable idea, or from its being characterised by the possession of a definite close, conveying a distinct impression to the ear.

94. (*a*) A run or running passage consists of a succession of, in the main *conjunct*, scale tones (diatonic or chromatic), proceeding, for the most part, in one same direction; in quickish time, and through the extent of at least an octave. (Fig. 20.)

Fig. 20.



95. (*b*) By a bravura passage or roulade is understood any markedly difficult running passage of considerable extent, requiring and serving to exhibit exceptional technical skill and power of execution in its performance. (Fig. 21.)

Fig. 21.

§ 2. The Foot.

96. A musical foot consists, in general, of one accented and of one or two unaccented parts of a measure (fig. 22).

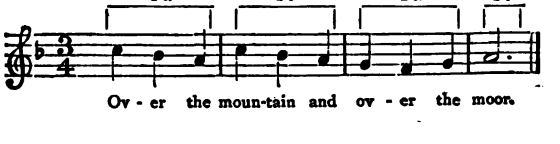
1. SIMPLE IAMBIC FEET.

Fig. 22. ST ANN'S.

2. SIMPLE TROCHAIC FEET.

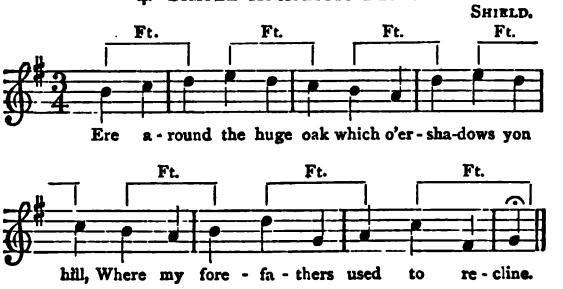
OLD EASTER HYMN.

3. SIMPLE DACTYLIC FEET.



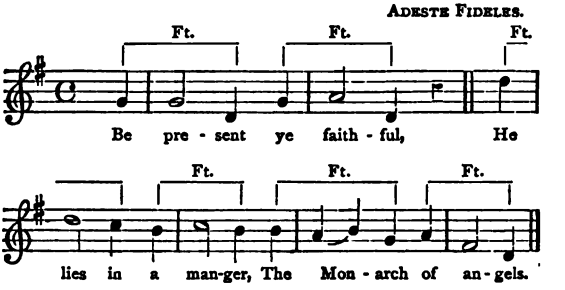
4. SIMPLE ANAPESTIC FEET.

SHIELD.



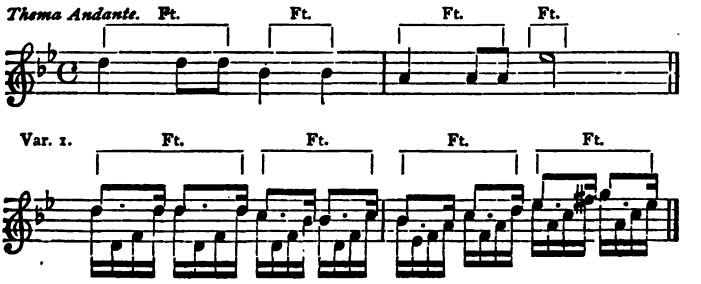
5. SIMPLE AMPHIBRACHIC FEET.

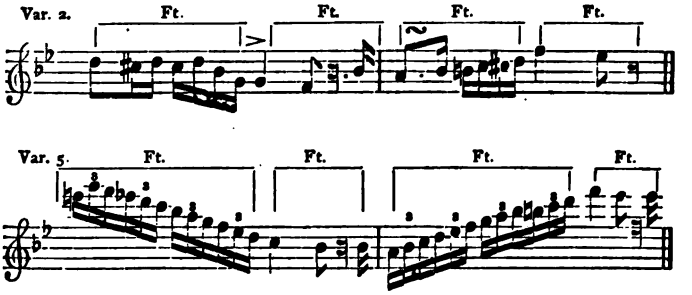
ADESTE FIDELES.



Sometimes, however, in slow compound, and even simple measure, a bar consists of two feet. (Fig. 23.)

Fig. 23. F. SCHUBERT (Impromptu in B♭).





Musical feet have received designations applied to those of verse in verbal language, as iambic, trochaic, dactylic, anapestic, amphibrachic, and corresponding with their accentual disposition; but since no strict analogy exists between the cases, the classification does not seem to answer any useful purpose. Fig. 22 affords specimens of simple musical settings of these verbal species of feet.

The main distinction between a poetical and a musical foot consists in the fact that while the former, being determined by the quantity or length of its constituent syllables, is limited in the number of these, the latter is concerned only with the number of principal *accents* which it involves—that of its constituent notes and rests being subject to no other restrictions than those imposed by (*a*) the character of the composition, or (*b*) the exigencies of fitness, and speed in practice. Thus, while the order of *verbal* accents and feet, presented in the several examples of fig. 22 admits, in each instance, of very little, if any, modification—such modification being regarded as strictly exceptional—and by way of licence for the attainment of a special effect, the musical disposition may be, even in connection with the rigid shackles of metrical verse, very various. Indeed, from a purely instrumental point of view, an almost infinite diversification may be employed.

Moreover, not only is the composer to a great extent unrestricted as to his mode of distribution of the varied contents of an already-selected musical foot (see fig. 23), he is also, it is plain, at perfect liberty, in verbal settings, to determine the nature of the foot itself in the first instance that is chosen. Thus, the same sequence of words or syllables admits, in its musical illustration, of an almost unlimited choice of means. The settings—*e.g.*, of the several texts indicated in fig. 22 might have been

vastly different from the simple forms actually adopted. It is from this point of view that the pertinence of the statement, made above, appears as to the absence of a strict analogy between the musical foot and that of verbal language.

Fig. 23 affords an illustration of the use of the same durational foot with varying contents, and additional instances may be readily adduced from any set of variations upon a theme.

97. Although, in general, durationally worth a bar, the foot rarely begins and ends therewith. It commonly comprises portions of two consecutive bars.

An exemplification of this is afforded in fig. 22 (1, 4, 5).

§ 3. The Phrase, Section, and Period.

98. The phrase * is either regular or irregular.

99. A regular phrase consists of one, two, three, or four measures—rarely more essentially—simple or compound.

The musical phrase is, in many respects, analogous to the phrase or clause (excluding from this last term an application to any form of sentence, whether principal or subordinate—any verbal expression, *i.e.*, containing a finite verb) of *verbal* language, and commonly indicated by a terminal comma. Although the smallest rhythmical division, calculated to convey a distinct impression to the mind as being marked by an individual and distinctive character, it yet presents, as an essential characteristic, no sense of completeness or finality, but is merely an adjunct or modifying constituent in the formation of a larger whole.

By some theorists the phrase, as here explained, is appropriately designated by the term *member*, the designation phrase being then reserved for the more extensive rhythmical divisions known, respectively, as the section and the period.

* The term phrase is here employed in its usual and strictly technical signification, and as commonly explained in English scientific works. It should not, however, be forgotten that the term is freely used to denote any rhythmical division whatever up to the period.

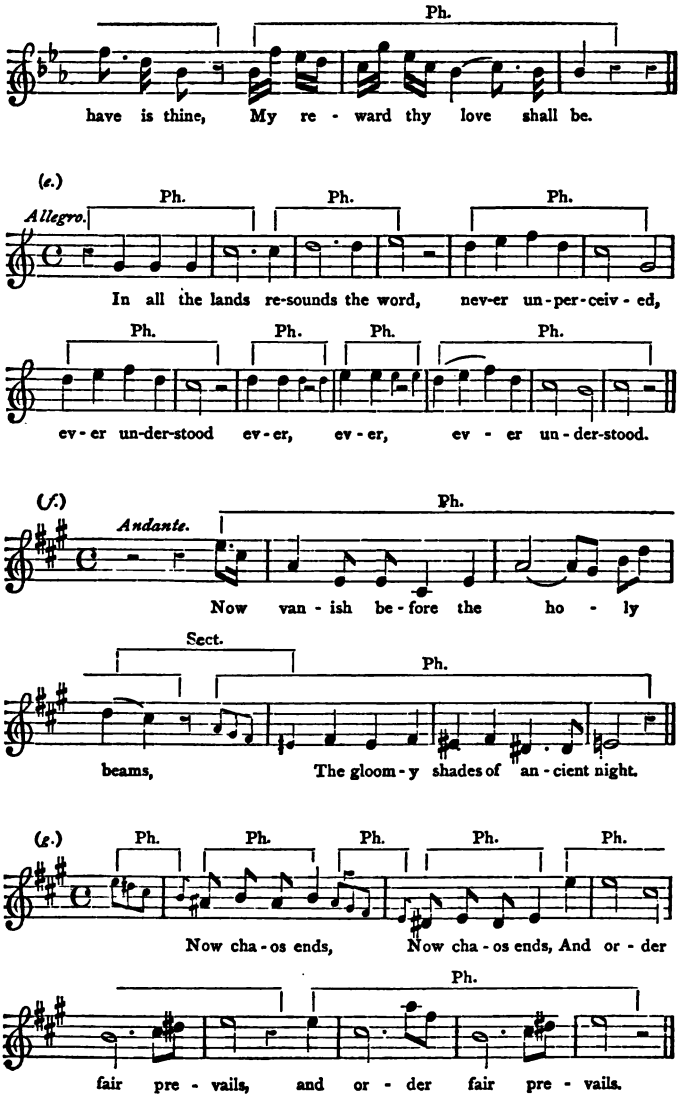
100. A phrase consists normally of complete measures, although, like the other rhythmical forms, it may begin at discretion upon any portion of the measure (Art. 97).

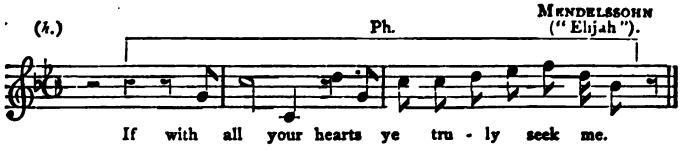
The following (fig. 24) are instances of phrases composed, respectively, of one, two, three, and four measures, simple and compound, and beginning upon various portions of the measure.

Fig. 24. HAYDN ("Creation").

(*a.*) See also figs. 25, 26.

NOTE.—Phrases of a single measure predominate throughout this movement. (No. 5, "Creation.")


Ph.
have is thine, My re - ward thy love shall be.
(e.)
Allegro.
Ph.
Ph.
Ph.
In all the lands re-sounds the word, nev-er un-per-ceiv-ed,
Ph.
Ph.
Ph.
Ph.
ev-er un-der-stood ev-er, ev-er, ev - er un-der-stood.
(f.)
Andante.
Ph.
Now van - ish be-fore the ho - ly
Sect.
Ph.
beams, The gloom-y shades of an-cient night.
(g.)
Ph.
Ph.
Ph.
Ph.
Ph.
Now cha-os ends, Now cha-os ends, And or - der
Ph.
fair pre - vails, and or - der fair pre - vails.



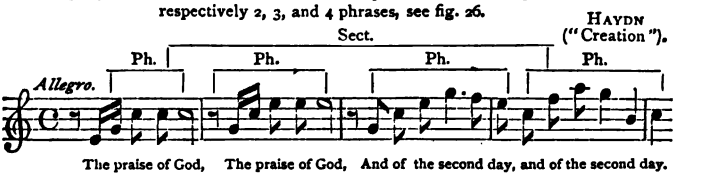
The student should verify for himself the attribute of the phrase of the want of finality, above referred to (Art. 99), in a large collection of examples.

101. The section consists of two, three, or more phrases, and is invariably terminated by a cadence or close. It represents a musical division of greater completeness and more decided signification than the phrase, as evidenced by its more emphatic termination, and corresponds to the subordinate sentence in verbal language, since expressing a more or less independent and complete, although subordinate, thought.

As invariably terminated by a perceptible and definite close, the section constitutes an important unit in the analysis and assessment of the rhythmical construction of a movement as based upon the fundamental principle of relation. The terminal cadences, as it were, *cut* a movement into definite and distinctly appreciable portions appropriately known as *sections*.

The following (figs. 25, 26) are examples of sections composed, respectively, of two, three, and more phrases.

Fig. 25. Of 4 phrases. For further examples of sections composed of respectively 2, 3, and 4 phrases, see fig. 26.

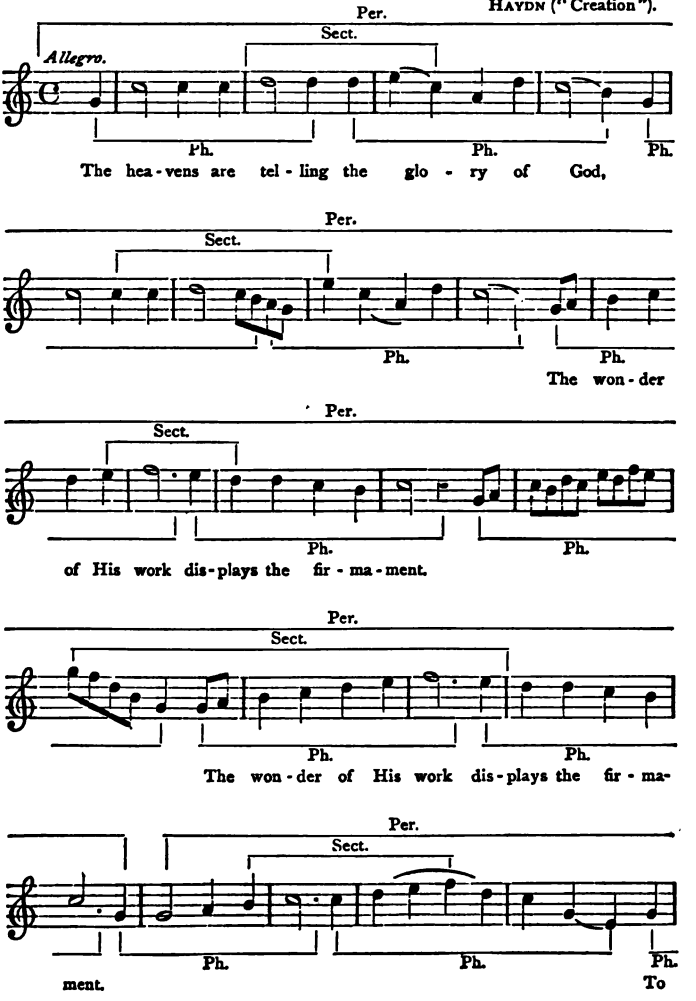


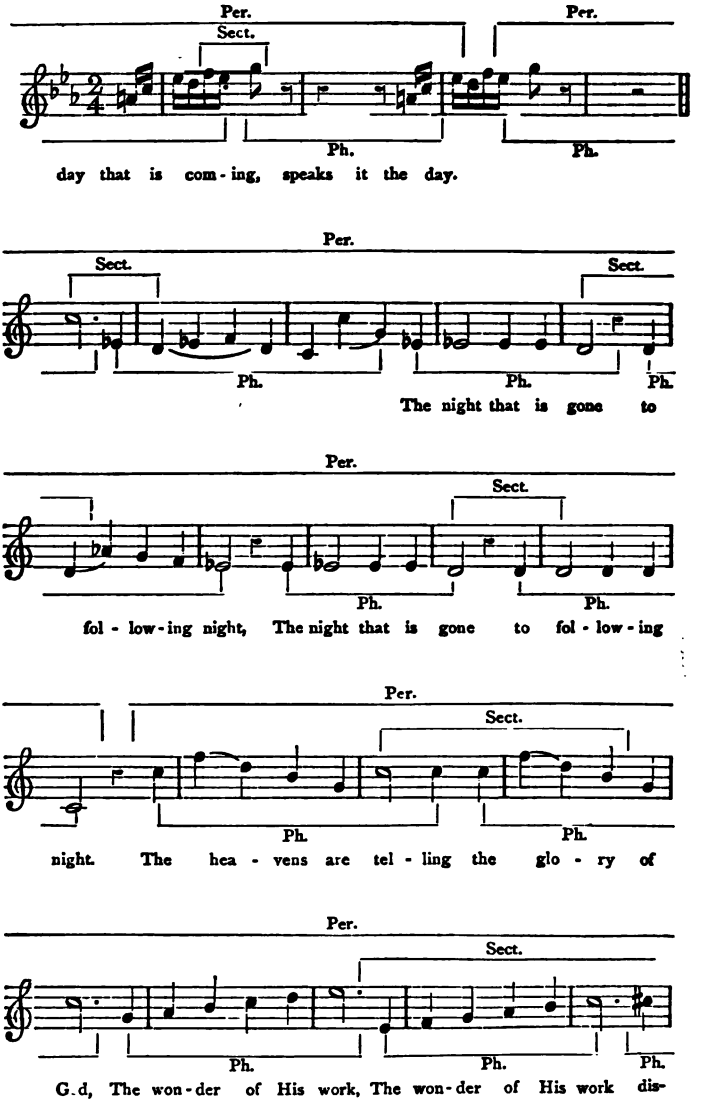
102. The period, like the principal sentence of verbal language, constitutes a distinct musical division characterised by being complete in itself. It is made up of

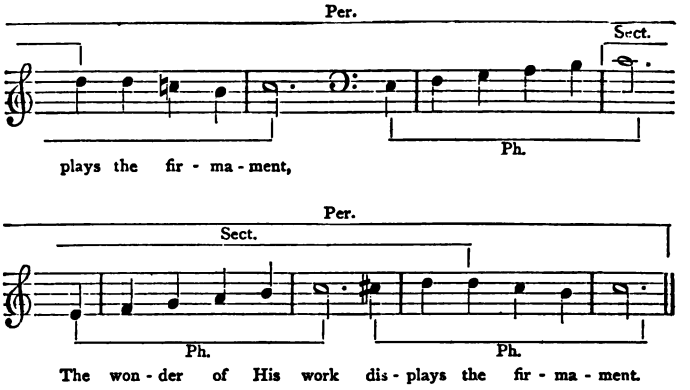
two, three, or more commonly of a larger number of sections. (Fig. 26.)

Fig. 26.

HAYDN ("Creation").




Per.
Sect.
Per.
Ph.
Ph.
day that is com-ing, speaks it the day.
Per.
Sect.
Sect.
Ph.
Ph.
Ph.
The night that is gone to
Per.
Sect.
Ph.
Ph.
fol-low-ing night, The night that is gone to fol-low-ing
Per.
Sect.
Ph.
Ph.
night. The hea-vens are tel-ling the glo-ry of
Per.
Sect.
Ph.
Ph.
Ph.
G.d, The won-der of His work, The won-der of His work dis-



Every melody, even the shortest, contains, at least, *one* complete period, generally more. A period should almost always consist of an *even* number of measures; deviations from this rule being regarded as strictly exceptional.

103. The more extensive section of a composition (movement) and independent whole, formed by the aggregation of two (more commonly of a greater number of) periods, is denominated a strain, and the term strain is often used familiarly to designate either the phrase, section, or period.

The employment of the terms indicating the higher rhythmical divisions is, as previously intimated, characterised by a degree of looseness and ambiguity, the designations section, period, or strain, being often used interchangeably, the first even applied to denote the integral portion of a whole movement or piece comprising a number of strains, while the terms passage and phrase are indiscriminately employed familiarly, in a general sense, to each of the varieties above specified.

The ambiguity and want of precision here alluded to, result partly from the absence of a uniform classification in scientific writers, and partly from the non-technical and indiscriminate employment of the terms familiarly. The classification adopted in the present work is that commonly followed by English theorists.

It will have been noticed that the species of rhythmical division higher than the bar have, like this latter itself, been represented as mutually occupying relations of the first degree of simplicity, viz., the binary and the ternary—each species being composed of *two* or *three*—or a *multiple of these*—of the next lower. And this is by far the most frequent, in fact, the *normal* mode of their employment, preference being given to the simplest relation of all—the binary. Even the ternary relation, pure and simple, is very rarely exclusively employed as a basis for the construction of rhythmical periods. Still, in order to prevent the dulness and monotony resulting from a tame and uniform adherence to one prescribed, however symmetrical, formation, and incompatible with—indeed utterly repugnant to—true art, by the infusion of a necessary variety and vigour, various additional means are resorted to for the attainment of the requisite diversification. And these consist principally in the modification of the phrase.

§ 4. The Irregular Phrase.

The simplest mode of constructing a musical period by the aggregation of phrases consists, as we have seen, in the continuous and orderly succession of regular specimens of exactly the same durational extent. For necessary purposes of variety, however, the phrase, of whatever number of bars constituted, may be either *extended* or *contracted*.

(a.) The Extended Phrase.

104. The phrase may be extended by

(1.) The preliminary addition thereto of an extraneous melodic *figure* of brief extent. (Fig. 27.)

Fig. 27.

105. Any characteristic tonal passage of no great length, and generally easy of recognition by reason of

some marked rhythmical peculiarity of structure, is termed a *figure*.

(2.) The repetition of its first member. (Fig. 28.)

Fig. 28.

(3.) The *terminal* addition of a short *codetta* (fig. 29):

Fig. 29.

or tail-piece, such *codetta* frequently forming a reproduction, by way of repetition or *echo* of the last part of the phrase. (Fig. 30.)

Fig. 30.

106. By a *codetta* is meant any passage of brief extent serving either (1) to connect two or (2) to terminate a single musical phrase.

(4.) The prolongation of an individual (fig. 31)

Fig. 31.

(often the first) note or notes of the phrase. (Fig. 32.)

Fig. 32. Dr Arnold.

(5.) The interruption resulting from the insertion in the body of a phrase of a bravura passage (fig. 33), a

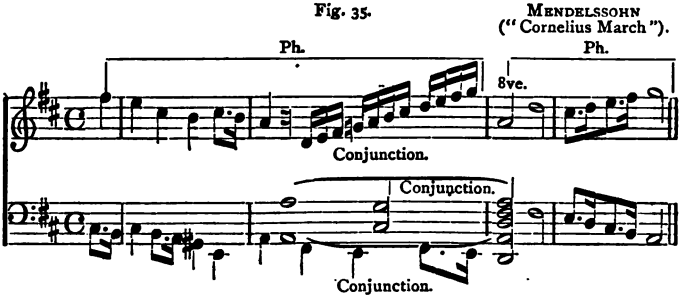
Fig. 33. Handel ("Acis and Galatea").

run (fig. 20), or from the substitution for a strongly anticipated progression (to whose presentation the previous contents of the phrase seem unmistakeably to point) of an entirely unexpected passage of division or, so to speak, musical *turn*. (Fig. 34.)

Fig. 34. Haydn ("Seasons").

(6.) In *tonal*, although not in actual *rhythmical* extent, the phrase terminating a section or period is sometimes prolonged by the addition, in lieu of what would otherwise have been rests, of a series of sounds forming a continuous link of connection with the next new section or period, and this in either one or more of the parts. Such a series of connecting sounds has been termed a *conjunction.* (Fig. 35.)

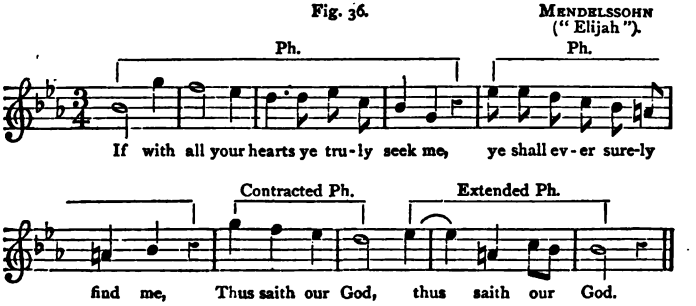
Fig. 35.



(7.) Extension of one of two following phrases is sometimes effected by either (*a*) *anticipation* or (*b*) *retardation.*

The former operation consists in the entry of the first note of a phrase *before* (fig. 36) the latter, *after* (fig. 37) what—accord-

Fig. 36.



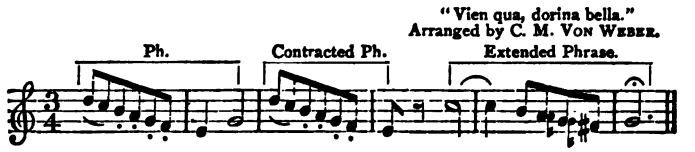
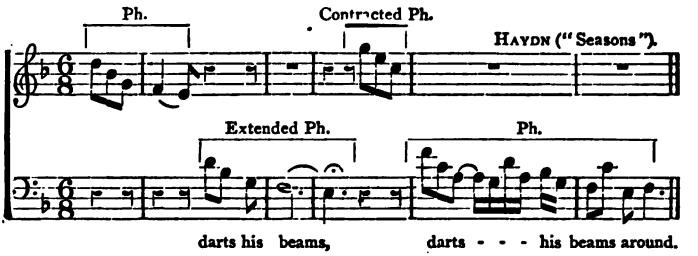


Fig. 37.



ing to the expectation raised by the analogy presented in neighbouring phrases—constitutes its due time.

It is plain that the extension of one of two phrases, succeeded, as here explained, involves a corresponding *contraction* of the other.

The importance of the extended as well as of the *contracted* phrase, in affording variety, is well illustrated in the construction of the second part of the sonata form.

(b.) The Contracted Phrase.

107. This form of phrase results (1) mainly from the important practice of *interweaving*. The *interwoven* phrase is a form much resorted to in elaborate compositions involving a preponderance of *imitational* treatment, such as *fugue*, *canon*, &c., and constitutes in its employment a main characteristic of what is known as the *strict*, *diatonic*, or *contrapuntal* school of composition. (See Part II., Division 2.)

108. The interwoven phrase is formed by the use of the *abbreviatura*, which consists of a note or a measure

employed as the *last* of one and the *first* of the *following* phrase, such abbreviatura being of course counted twice in the analysis of a section or a period into its component phrases.

See figs. 38 and 39, where the abbreviatura or portion *common to* succeeding phrases is in each case denoted by asterisks, the interwoven phrases being moreover severally indicated.

Fig. 38.

HANDEL ("Messiah").

Ph.
Ph.
And the glo - ry, the glo - ry of the Lord, And the
Ph.
Ph.
glo - ry, the glo - ry of the Lord,
Ph.
Shall be re-
Ph.
veal - - - - - - ed,
Shall be re - veal - - -
Ph.
And the
Ph.
Shall be re - - veal - - - - - - ed,

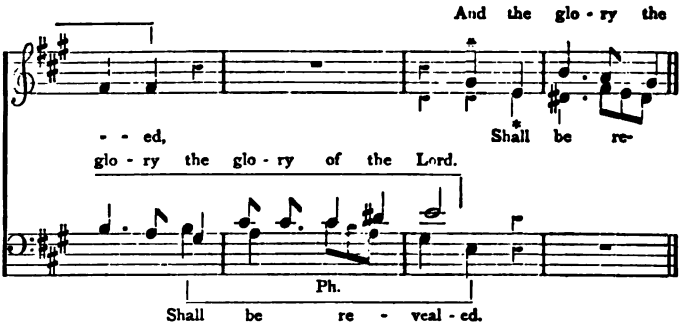
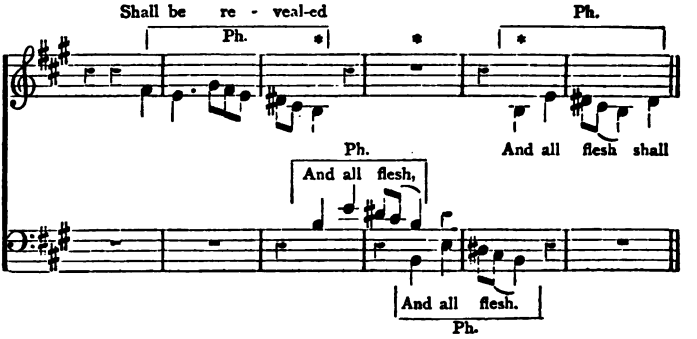


Fig. 39.



109. A further means of contraction, as of *extension*, of the phrase is afforded by the initiation of consecutive specimens upon different parts of the bar involved in the employment of (*a*) anticipation, and (*b*) retardation. (See Art. 104, (7.)

In the former case it is the *first* phrase which is contracted, in the latter the *second*.

As a rule, all the phrases of one same section or period begin with the *same* part of the bar either as *notes* or as corresponding *rests*.

DIVISION III.—QUALITY OR TIMBRE.

—o—

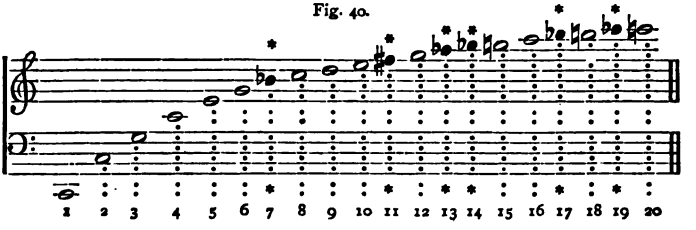
CHAPTER X.

THE French term *timbre* is applied to denote a physical distinction between sounds entirely independent of their pitch, their force, or their duration. Sounds may be identical in all these respects, and yet differ in *timbre*. This difference may be at once seen by the production of the same note upon, say, a flute and a violin.

As we have already seen (Art. 16), a musical sound produced by any of the most ordinarily employed methods consists, not as might *primâ facie* and—judging, in the absence of special experimental training, from the sensational effect—very naturally be supposed of a *single* individual tone, but of a joint *collection* of tones, occupying with the first (fundamental and predominant) of their number relations precisely expressible in every case by the numerical formula known as an Arithmetical Progression.

Fig. 40 affords a representation of the first twenty terms of the harmonic series (Art. 17) generated by the sound C, the several tones which (as standing in other ratios to the root than those expressible by the first four prime numbers (1, 2, 3, 5) or by—to the exclusion of other primes—their multiples) are inadmissible for musical purposes receiving an indication in each instance by means of black notes with asterisks. For purposes of illustration, any other sound, it is manifest, might have been selected as fundamental or root.

Fig. 40.



It must not, however, be supposed that every musical sound involves the unbroken and complete production of even a portion of the possible harmonic series which such sound inaugurates. On the contrary, although instances are found of musical tones resulting from a combination of as many as twenty clearly perceptible harmonics, the greatest diversity exists both with regard to the *number*, *relative pitch*, and *relative power* (loudness or intensity, *i.e.*) of the harmonics involved in the constitution of musical sounds. So far as their constituent over-tones are concerned, sounds may differ either as to (1) the *number*, (2) the *scale position*—the place, *i.e.*, in the entire series of which such sound is the basis—or (3) the *relative loudness* of the harmonics selected. And it is this element of diversification which determines the varied *quality* of sounds.

The statement here enunciated must be accepted with the important proviso that, however varied or (owing to the absence of members of the series) *incomplete* may be the sequence of harmonics of which a sound is made up, the original order, as expressible by the terms constituting an arithmetical progression, is never infringed or in any respect deviated from.

110. The *quality* (colour, complexion, or *timbre*) of a musical sound forms the result of

(1.) The number,
(2.) The order,
(3.) The relative loudness or intensity of its constituent harmonics,

such harmonics directly resulting from the mode of composite vibration inaugurated as a consequence of integral structural features possessed by the medium (whether voice or instrument) by which the sound in question is produced.

The fact will be at once recognised that the three conditions above specified (Art. 110) as to the *number*, *relative position*, and the *intensity* of overtones are mutually distinct and independent; that any two or more sounds may either agree or differ in any one or more of the respects here indicated. The vast diversity of possible modes in which these three conditions may be combined.

serves to explain the innumerable shades of quality appreciable by the ear, and resulting from—

(1.) The use of distinct species of voices and instruments.

(2.) The use of distinct individual specimens of voices or of instruments of one same species.

(3.) The use of distinct portions (or regions) of an individual voice or instrument.

(4.) The combination of distinct stages of executive capacity (ranging from the first crude attempts of the tyro to the refined and finished performance of the consummate artist) with (1), (2), or (3).

The law as to the composite constitution—physically—of musical sounds, has been shown by Professor Helmholtz to admit of both an analytical and a synthetical experimental demonstration. To this eminent German philosopher, moreover, the honour is due of having done much to establish the direct dependence of musical *quality* upon *mode of vibration*, and some of the main results of his investigations go to prove (1) that as *pitch* is determined by the *rate* and *loudness* by the *extent*, so is the *quality* of a musical sound determined by the only remaining mutable condition of its physical production, viz., the *mode* of vibration; (2) that in all but the case of simple tones—that is, in every *composite* sound—there must be an aggregation of distinct modes of vibration corresponding to, and resulting in, the several simple sounds of which such composite sound is made up, and necessarily, therefore, proceeding at different rates—such aggregation resulting in a mode of *composite* vibration; (3) that although the mode of composite vibration determines the quality of a musical sound, yet, since more than one such distinct vibration-mode may result in the same shade of quality, the converse of the proposition does not hold good, viz., that the quality of a sound determines its exact mode of vibration.

As yet very little is known as to the precise form of waves productive of a difference of *timbre* in the resulting musical sounds, beyond the fact that there *does* exist a marked difference in the distribution of aerial pressure concerned in the formation of waves producing, respectively, mild or smooth, and pungent or piercing tones.

For the more precise and scientific consideration of the physical theory of quality, certain deviations and additions have been introduced by Helmholtz into musical nomenclature. Of these, the most important, as anglicised by Professor Tyndall, are :—

(1.) The restriction of the term *tone* (see note p. 11), or more fully, *simple tone*, to denote a musical sound practically incapable of analysis into separable harmonics.

(2.) The use of the term *clang* to denote any *composite*, as distinguished from a *simple*, sound or tone.

(3.) The use of the appropriate (since self-explanatory) terms *over* and *partial* tone (or partial), the former to denote any sound generated by a fundamental—any harmonic, *i.e.*—the latter any simple tone entering into the formation of a composite musical sound (*clang*).

For the indication of timbre there exists no special *notational* contrivance beyond the use of the different clefs, and the indication in a score of the various voices and instruments at the head of its several staves. (See Appendix *score.*)

B.—NOTATION.

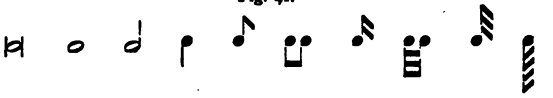
INTRODUCTORY SECTION.

INTRODUCTION—DEFINITION OF MUSICAL NOTATION—NOTATION OF THE PITCH, FORCE, DURATION, AND QUALITY OF MUSICAL SOUNDS.

111. MUSICAL notation may be defined as the art of representing musical sounds through the medium of written signs. Modern musical notation is the result of a combination of the pictorial and the symbolic principles. It employs also a *literal* (alphabetical) as well as a *syllabic nomenclature.*

112. Musical sounds are represented to the eye by means of characters termed notes (fig. 41). A note is the sign of a corresponding musical sound.*

Fig. 41.



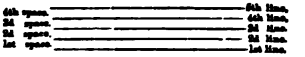
113. The notes are named after the first seven letters of the alphabet, A, B, C, D, E, F, G; and they are also designated by the following series of seven syllables—viz., *Do, Re, Mi, Fa, Sol, La, Si, Do.*

114. The *pitch* of a sound is exhibited notationally by the place of its representative note upon a series of

* The terms *sound* and *note*, although, as here shown, in signification perfectly distinct, are yet commonly treated as convertible, a mode of employment which, in order to avoid undue periphrasis, is adopted, as occasion serves, in the present work.

parallel lines termed a *stave* (fig. 42) and so far as its nomenclature is concerned, it is to some extent denoted by the order—in the respective series of these—of its alphabetical or of its syllabic cognomen.

Fig. 42.



115. The *duration* of a sound is shown by the *shape* of its corresponding note (fig. 41); its relative degree of force (1) by its *relative situation laterally* with regard to its neighbours, and to certain perpendicular strokes, termed *bars*, as well as (2) to some extent by modifications of form and connection; and also (3) by appended literal and verbal directions.

116. For the exhibition of the *quality* or *timbre* of a musical sound there exists no special notational contrivance. (Chapter X.)

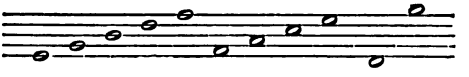
DIVISION I.—NOTATION OF PITCH.

CHAPTER XI.

§ 1. Relative Pitch. The Scale.

117. THE relative pitch of a note is determined by its place upon a stave. A stave consists of a number of parallel lines (figs. 42, 46). The notes are placed upon the lines and between the spaces of the stave (fig. 43), which are counted from the bottom upward (fig. 42), and each of which is termed a *place* or *degree*.

Fig. 43.



Including its outer extremities, the five-lined stave is thus seen to comprise eleven (fig. 43) the eleven-lined stave, *twenty-three* degrees (fig. 46).

Whether a sound is higher or lower than another, or, in other words, the *relative pitch* of a sound, is determined by its place on the stave. Thus a note, and hence signified sound, on the second line is higher than one in the space below; and this, again, is higher than one on the line below, &c.

118. The order of sequence of notes (whether ascending or descending) upon any stave employed in modern

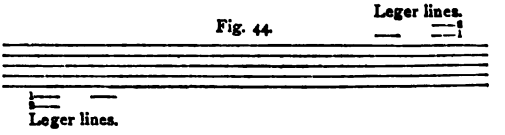
music is that of—as the basis and material of all music—the common scale; or, in other words, contiguous notes—notes, *i.e.*, receiving a position upon following stave degrees (an adjacent line and space)—invariably represent, in the absence of further modification, *following scale sounds.*

119. The musical stave, then, is primarily adapted to the exhibition of the scale.

During the early stages of musical history a variety of forms of stave of an extent ranging from one to ten or eleven lines was employed. Ultimately, however, these insensibly gave way to the uniform and universal adoption of the simple yet comprehensive stave of five lines; a form which, as a consequence of (1) its formation of an *odd* number of lines, (2) this number being neither more nor less than *five* (and thus easily lending itself to the exhibition upon its eleven degrees of the eleven or twelve sounds which make up the range of an ordinary voice) (Art. 126), and (3) (a corollary of (1)) its symmetrical disposition about a central or *pivot* line, is at once that most calculated to arrest the eye, and by presenting for its use a fixed stand-point for purposes of instantaneous gauging, to ensure its ready and effectual grasp of the stave contents with the least possible exertion and fatigue.

120. For the purpose of expressing sounds either higher or lower than those upon the stave, short detached lines calculated not to interfere with its legibility are employed as occasion requires. Such additional lines are termed ledger (leger) lines (French *leger*, light) (fig. 44). The leger lines receive also a numerical designation, as first, second, or third leger line above or below the stave, &c., as the case may be.

Fig. 44.



121. The relative pitch of a note is further determined,

so far as its place in one of the octaves of the scale is concerned, by its alphabetical as well as by its syllabic designation.

As a consequence, however, of the condition of musical science when the literal or alphabetical nomenclature was first adopted, this was not applied with primary reference to the form of scale now universally regarded as normal, but to that known as the *minor* mode, and beginning on the *sixth* sound of the normal series. And this method of application has, for obvious reasons, never been rescinded.

To obtain a *true* alphabetical denotation of the common scale the order must run from C to C, thus: C, D, E, F, G, A, B, C, substitution being made of the third—C—in lieu of the original A as first or initial note. This remark does not, however, obtain with regard to the series of *syllables* applied to notes, and chiefly employed for purposes of *singing;* for, in this case, the scale series is accurately designated by the syllabic sequence Do, Re, &c.

It is clear that, in the absence of any further indication or previous arrangement, the unaided stave is adequate solely to the exhibition of simply the *relative* pitch of sounds, and that in its most general form—whether, *i.e.*, a note is higher or lower than another in any instance—and offers no suggestion whatever as to either their *exact* scale position or their *absolute* pitch.

§ 2. Absolute Pitch.

122. The absolute pitch of sounds and (in the first instance) their exact scale position are severally indicated by characters termed *clefs*. (Fig. 45.)

123. A clef (French *clef*, Lat. *clavis*, a key) is a key to the *name*, and hence actual pitch, and (in the first instance) scale position of the notes on a stave.

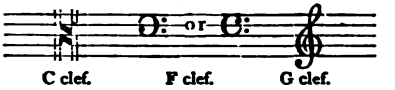
The name of the note on any one degree of the stave having been determined, that of any other may, it is plain, since the letters are used in alphabetical order, be ascertained by a simple process of calculation.

124. The clef is placed at the beginning of each fresh stave.

Occasionally it is found necessary to change the clef during the progress of a musical composition.

125. There are three clefs employed in music, named respectively after the sounds which they represent, the C, F, and G clefs.

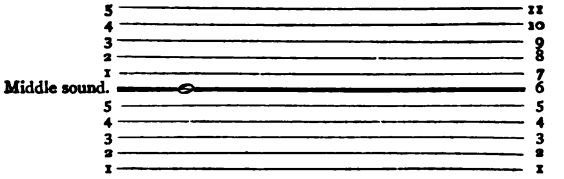
Fig. 45.



For the exhibition of the total number of sounds—ranging from high to low or *vice versâ*—producible by the several varieties of voice taken as one whole (about twenty-four), and supposing both the lines and spaces to be employed, a stave of at least eleven lines (twenty-three degrees) would be required—its central line being devoted to the middle note of the entire series, and notes higher or lower than this respectively relegated to its upper or lower portions.

The notation of pitch may be best viewed in connection with such a stave as this hypothetical one—commonly termed the great or large stave—of eleven lines. (Fig. 46.)

Fig. 46.



126. The C clef, as being used to mark the seat of the middle sound (approximately), termed C,* of the entire musical system, is placed upon the central line of this complete stave, while the F and G clefs, since employed

* Although not strictly the centre of the entire audible range, still the sound *c* denoted by the C clef is as nearly as possible central in the important vocal range, and hence—since this vocal range forms the nucleus of the whole system—may be regarded for all practical purposes as the middle sound of the absolute series.

to indicate the seats of the sounds respectively lower and higher than the central one by five scale degrees, receive a position — the former upon the second line (fifth degree) *below*, the latter upon the corresponding line (and degree) *above* this middle line.

Fig. 47.

NOTE.—The *black* notes indicate sounds somewhat beyond the average range.

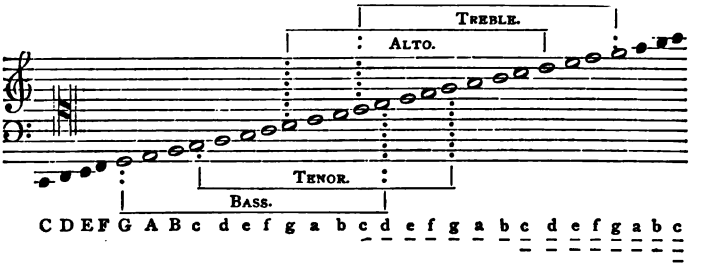


Fig. 47 represents a series of scale sounds ranging from one extreme to the other of the complete vocal system, and classified in accordance with the average (not the extreme) compass—ranging about twelve sounds, or an octave and a half (Art. 28)—of each of the four main orders of voice—viz., *treble*, *alto*, *tenor*, and *bass* —involved in its production. This range, it will be seen, comprises the common scale repeated, with the aid of leger lines, in four octaves. (Art. 28.)

The central note C being fixed at, say, 264 vibrations per second —and this, subject to slight modifications, is the actual case in practice—and the various notes following one another exclusively in scale order, it is plain that by the aid of a clef both the *actual pitch* and the *exact scale relation* of any individual note, together with its *name*, are alike ascertainable with the greatest ease.

The name of one sound having been determined by a clef, that of any other may, it is plain, be ascertained by a simple process of calculation. Thus any G in fig. 47 is obtained by enumerating the letters from any immediately preceding C in their usual order, and one for each degree, as C, D, E, F, G— the F by their enumeration in an *inverted* order, as C, B, A, G, F. A consideration of this process shows that notes occupying

similar positions in different octaves, and hence all but *identical* in effect, are denoted by the use of the *same* letter. Thus in the backward enumeration just achieved, when the scale sound denoted by A (the sixth of the normal series) is reached, there follows G the fifth, and then F the fourth, the two last being respectively octaves of, and occupying similar scale positions to the F and G, *being, in fact, repetitions of these lower down,* obtained by the first or direct enumeration.

The arguments capable of being adduced in recommendation and support of the five-lined stave may with proportionate force be advanced adversely against the adoption of the hypothetical stave of eleven lines now under consideration. Such a stave would be alike unwieldy and unnecessary for the ordinary purposes of a single voice or part—one, *i.e.*, capable of producing only about twelve following scale sounds—and would occasion perpetual fatigue to the eye in its discrimination.

The only approximation to the eleven-lined stave now in general use is the very valuable one afforded in the combination of two staves of five lines each, adopted for (1) music intended for keyed instruments such as the pianoforte (fig. 48), and (2) a

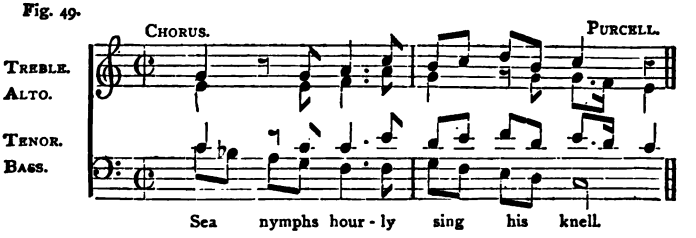
ARRANGEMENT FOR KEYED INSTRUMENT.

Fig. 48.

condensed mode of writing chiefly vocal parts—rarely more than four or five—termed *short score* (fig. 49). In either case omis-

EXAMPLE IN SHORT SCORE.

Fig. 49.



sion is made both of the C clef and the central stave line, this latter being, when necessary, introduced in the form of a *leger* line.

Owing to the absence of an intervening central line, the objection as to intelligibility loses all its force when applied to this valuable modification of the great stave. In its use the entire vocal range is indeed laid bare, and invites its easy assimilation by the eye; and the arrangement is found to unite all the comprehensiveness of the eleven-lined, together with the legibility of the five-lined, stave—a consequence of the fact that the middle line is "conspicuous by its absence."

127. The following selections of five lines—forming sections of the great stave—are made use of in modern music as separate staves, each being indicated by its corresponding clef.

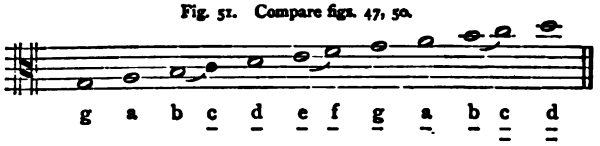
Fig. 50.

(1.) The Alto Stave, employed in the expression of sounds of *medium* pitch—as found, *e.g.*, in music intended for the alto voice—and consisting of the middle line of the complete stave, together with the two next in order, both above and below. The central line of the complete stave, which is also its *own* central line, is indicated by the position thereupon of the C clef .

See figs. 47, 50, and compare fig. 51, which exhibits the ordinary compass of the alto voice exhibited upon its own stave.

THE ALTO STAVE.

Fig. 51. Compare figs. 47, 50.

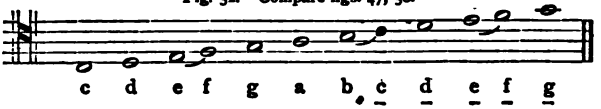


(2.) The Tenor Stave, also employed in the expression of sounds of medium pitch, but somewhat lower than those to which the alto stave is appropriated—as found, *e.g.*, in music intended for the tenor voice—and consisting of the middle line of the complete stave, together with, respectively, the line next in order above, and the three immediately below. The central line of the complete stave, which is (reckoning upwards) the *fourth* of this, is indicated by the position thereupon of the C clef .

See figs. 47, 50, and compare fig. 52, which exhibits the ordinary compass of the tenor voice exhibited upon its own stave.

THE TENOR STAVE.

Fig. 52. Compare figs. 47, 50.

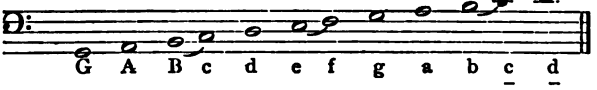


(3.) The Bass Stave, employed for the expression of sounds of *low* pitch—as found, *e.g.*, in music intended for the bass voice—and consisting of the five *lowest* lines of the complete stave. The central line of the complete stave is not comprised in this collection, which is indicated by the presence upon its fourth line (reckoning upwards)—this being likewise the fourth line of the complete stave—of the F or bass clef sometimes .

See figs. 47, 50, and compare fig. 53, which exhibits the ordinary compass of the bass voice exhibited upon its own stave.

THE BASS STAVE.

Fig. 53. Compare figs. 47, 50.



(4.) The Treble Stave, employed for the expression of sounds of *high* pitch—as found, *e.g.*, in music intended for the treble voice—and consisting of the five *upper* lines of the complete stave. The central line of the complete stave is not comprised in this collection, which is indicated by the presence upon its fourth line (reckoning downwards)—this being also the fourth line of the complete stave, obtained by the same mode of reckoning—of the G or treble clef 𝄞.

See figs. 47, 50, and compare fig. 54, which exhibits the ordinary compass of the treble voice exhibited upon its own stave.

THE TREBLE STAVE.

Fig. 54 Compare figs. 47, 50.

For an account of additional sections of the great stave, either formerly or occasionally at the present time in use, the student is referred to the Appendix. In figs. 51–54 the central sound c is indicated by a black note.

128. A consideration of the mode of formation of the several staves shows that leger lines (Art. 120) represent, in some cases, lines of the great stave itself, in others, purely additional ones (figs. 47–54).

For the necessary extension of the powers of expression of the great stave of eleven lines to meet the exigencies as to sounds of increased height or depth imposed in the notation of instrumental music—for whose full exhibition a stave of at least thirty-one lines (sixty-four degrees) would be needed—and without creating unnecessary complication by the multiplication of clefs and leger lines, the contrivance is resorted to of prefixing either the direction *ottava alta* (an octave higher), or simply 8*va*, or 8, if greater height is required, if depth, 8*va bassa*, 8va, or 8 (an octave lower). Of these terms, the former prescribes the acceptation of the connected notes or passages over which it is placed as though written an octave higher, the latter of those *beneath* which it is placed as though written an octave lower. Thus fig. 55 (*a*) would be performed as at (*b*), and (*c*) as at (*d*). The termination of the power of the direction 8*ve* is indicated by *l.* or *loco.* A familiar example of the application of the process denoted by the term 8va is afforded in the common practice of indicating music proper to the *tenor* range by means of the *treble* clef, although in this case the direction is very often omitted. Music thus represented is then intended to be performed an octave *lower* than written.

Fig. 55.

The importance of the uniform partition of the large stave into sections made up of exactly five lines is prominently demonstrated by the consideration that this number of lines, as involving eleven degrees, is about adequate to the unaided presentation of the ordinary compass of an average voice (the twelve sounds which go to make up an octave and a half), while by the slight addition of leger lines suitable provision is afforded for all deviations from this involved in cases of exceptional vocal range. (Art. 119.)

It will be seen that in its display of the scale the linear stave does not directly distinguish between, respectively, its larger and its smaller interval, between the tone and the semitone. Prac-

tically, however, and in the face of its immense and manifold advantages, this cannot be said to constitute a serious defect of the pictorial notation, since the place of the key note once being assumed or determined, those of the semitones, as occurring invariably in the same *relative* position in every scale, between, viz., its 3d and 4th and 7th and 8th sounds respectively, are easily discriminated and remembered. The foregoing observation applies with equal force to the several other scale intervals and sounds.

The several positions of the semitones in figs. 51–54 are denoted by *slurs* (Art. 155).

The unmodified alphabetical notation is, as we have seen, unable to determine the pitch of a note more precisely than as one of a series of 8*ves* (Art. 121). Thus, by the letter C may be signified, in the absence of further information, any one of the octave sounds audible above or below the central sound (C) of the system, that, viz., resulting from about 264 vibrations per second.

This defect is remedied, however, and a precise and valuable literal notation of absolute pitch afforded by the use of the German plan—based upon that associated with the name of Gregory the Great, and dating from the sixth century—of indicating the various 8ves of the complete vocal range, and, as a consequence of its extended application, of the entire musical system, by typographical modifications.

Thus, the 8ve beginning with

, the lowest of the vocal range, is termed the *great* or *large* 8ve, and its notes are denoted by the use of capital letters, thus, C D E F G A B. The next higher 8ve, that, viz., initiated by

, is termed the *small* 8ve, and correspondingly indicated by *small* letters, thus, c d e, &c., the various 8ves after this, in ascending order, being respectively known as the *one*, *two*, *three*, *&c.*, *lined* octaves, and their sounds indicated by the small letters respectively once, twice, or thrice underlined. Accordingly, the 8ve beginning with

receives a representation thus, c d e f, &c. (read one-lined c, one-lined d, &c.), that beginning with

thus, c d e f (read two-lined c, two-lined d, &c.), and so on.

The sounds of the lowest 8ve upon the pianoforte (that, viz., ranging downwards from great C) are often termed *counter* tones. It may be added that the strokes employed in the indication of the several higher 8ves are frequently placed over instead of under the constituent notes, thus, c c d, &c.

For further exemplification see figs. 47, and 50–54, where the several 8ves of the entire vocal range are designated each by its appropriate letters.

CHAPTER XII.

The Major Mode.

THE linear stave being adapted in its unmodified form to the exhibition of but a single series of scale sounds—a characteristic at once seen from the disposition thereupon of such a series of sufficient extent, from high to low, leaving none of its degrees unoccupied (fig. 47)—and, moreover, the construction of scales upon any other than the 1st or key note of an original scale, or one of its 8ves, necessitating, in every instance. the introduction of fresh sounds (Chap. III.), it follows, that in order to the visible expression of more than a single scale, recourse must be had to an extension of the symbolic principle by the employment of corresponding fresh signs. And these signs, in the uniformity, simplicity, and comprehensiveness of their mode of employment, constitute a characteristic excellence of the linear notation.

The formation of additional or derived scales, in the order prescribed by closeness of relation, entails, as we have seen (Chap. III.), the following consequences:—

(1) The addition of new sounds.
(2) A uniform process of substitution by *elevation.*
(3) An opposite uniform process of substitution by *depression.*
(4) The use as identical of, in pitch, slightly differing (*i.e.*, of enharmonic) sounds.

We proceed to enumerate the notational and nomenclational contrivances designed to meet these conditions.

129. The scale series to whose expression the stave in its unmodified form is entirely devoted, and for which it was originally invented, is that known, from its 1st or initial note, as the scale of C (fig. 47). All other scale

but this, as involving new sounds, require for their correct exhibition the aid of extra and modifying signs.

130. The signs of modification used in the notation of scales other than that of C, for the expression of the additional sounds peculiar thereto, are respectively termed *sharp* (♯), *flat* (♭), and *natural* (♮), to which may be added the *double sharp* (×), and the *double flat* (♭♭). In the process of substitution by elevation, involved in scales whose 1st sounds succeed one another, and that of the original scale, in a progressive series of ascending 5ths, the two former characters (♯ ×) are employed, one, viz., for each *elevated* replacing sound (see fig. 11); while in the process of substitution by depression, involved in scales whose 1st sounds succeed one another, and that of the original scale, in a progressive series of ascending 4ths, the two latter characters (♭ and ♭♭) are made use of, one, viz., for each *depressed* replacing sound (see fig. 12).

131. The ♯ and the × are signs of *elevation*, and severally denote the substitution of a sound higher, respectively, by one or by two semitones than that whose note occupies the unmodified degree of the stave upon which the character is placed.

132. The ♭ and the ♭♭ are signs of *depression*, and severally denote the substitution of a sound *lower*, respectively, by one or by two semitones than that whose note occupies the unmodified degree of the stave upon which the character is placed.

133. If, after the use of either a ♯ or a ♭, it is desired to represent the original and unmodified sound, employment is made of a natural (♮).

134. To indicate a sound lower by (*a*) *one* or (*b*) *two* semitones than is signified by a note to which is attached a (×), (*a*) a (♯), or, for the sake of clearness (Art. 166), a (♮♯) and (*b*) a (♮♮) are severally employed.

135. Similarly, to indicate a sound *higher* by (*a*) *one* or (*b*) *two* semitones than is signified by a note to which is attached a (♭♭), (*a*) a (♭), or, for the sake of clearness, a (♮♭) and (*b*) a (♮♮) are severally employed.

All signs of elevation or of depression are placed *before* the *notes*, but *after* the literal or the syllabic *designations* of these which they respectively modify (see figs. 56–58, &c.)

In fig. 11 is exhibited the notation of scales formed upon a series of ascending 5ths, and, in 12, of descending 5ths, or (which is the same thing) ascending 4ths, all notes indicating substituted sounds, whether of elevation or of depression, being invariably preceded by, in the former case, the corresponding symbol *sharp* (♯), or *double sharp* (×), in the latter, the corresponding symbol *flat* (♭), or *double flat* (♭♭).

A consideration of figs. 11 and 12 will show that the several processes of substitution by (*a*) elevation and (*b*) depression are not exclusively indicated by the respective symbols (♯) and (♭), but that the function of either of these is sometimes assumed by the (♮).

(1) A natural (♮) is employed, *e.g.*, in lieu of a sharp (♯) to denote *elevation* in the formation of a scale upon the 5th sound of one involving the presence of one or more *flats*, such natural, as being prefixed to the 4th sound of the *original* scale (and, by the withdrawal of the (♭), indicating the substitution of a sound higher than this by a semitone, and forming note 7 of the *derived* scale), virtually performing the office of a (♯).

For an illustration of this, compare either of the staves of fig. 12 with the one immediately preceding, understanding in this last the presence of a ♮ in place of the omitted ♭.

(2) Similarly, a natural (♮) is employed in lieu of a (♭) to denote *depression* in the formation of a scale upon the 4th sound of one involving the presence of one or more *sharps*, such natural, as being prefixed to the 7th sound of the *original* scale (and, by the withdrawal of the (♯), indicating the substitution of a sound lower than this by a semitone, and forming note 4 of the *derived* scale), virtually performing the office of a *flat* (♭).

For an illustration of this, compare either of the staves of fig. 11 with the one immediately preceding, understanding in this last the presence of a ♮ in the place of the omitted ♯.

An additional illustration of the double function of the (♮) is given upon the 4th and 5th staves of fig. 63.

The following figs., 56 and 57, comprise lists of the scales respectively requiring in their notation either (1) sharps or (2)

flats, extended in each case until the attainment is arrived at of initial sounds (and hence scales) practically equivalent to the original or inaugurative scale of C, often termed the open or *natural* scale.

Scales exhibited by the aid of sharps are commonly known as *sharp*, those formed by flats as *flat* scales, and the same remark applies to *intervals* (see Table, p. 19). The scale of C, from the absence in its notation of alterative signs, is termed *natural*. In like manner, notes unaffected by either sharps or flats are, by way of distinction, often designated *natural*. Thus the note C, in order that it may not be confounded with either C♯ or C♭, receives the designation C♮ (read C natural). But over and above this, the scale based upon C is commonly and erroneously spoken of as pre-eminently *the* natural scale, whereas, beyond the fact that being the scale of simplest notation and, since practically central in the system of musical sounds, most convenient for adoption as a standard of reference, it is no more intrinsically *natural* than any other—any, *e.g.*, of the derived scales (say B♯).

SCALES WITH SHARPS (♯ SCALES).

Fig. 56.

Name and Key Note of Scale.	Names of Sharps.	No. of Sharps.
C	None.	0
G	F♯	1
D	F♯ C♯	2
A	F♯ C♯ G♯	3
E	F♯ C♯ G♯ D♯	4
B	F♯ C♯ G♯ D♯ A♯	5
F♯ (=G♭)	F♯ C♯ G♯ D♯ A♯ E♯	6
C♯ (=D♭)	F♯ C♯ G♯ D♯ A♯ E♯ B♯	7
G♯ (=A♭)	F𝄪 C♯ G♯ D♯ A♯ E♯ B♯	8
D♯ (=E♭)	F𝄪 C𝄪 G♯ D♯ A♯ E♯ B♯	9
A♯ (=B♭)	F𝄪 C𝄪 G𝄪 D♯ A♯ E♯ B♯	10
E♯ (=F)	F𝄪 C𝄪 G𝄪 D𝄪 A♯ E♯ B♯	11
B♯ (=C)	F𝄪 C𝄪 G𝄪 D𝄪 A𝄪 E♯ B♯	12

For the notational structure of these ♯ scales see fig. 11.

SCALES WITH FLATS (♭ SCALES).

Fig. 57.

Name and Key Note of Scale.	Names of Flats.	No. of Flats.
C	None.	0
F	B♭	1
B♭	B♭ E♭	2
E♭	B♭ E♭ A♭	3
A♭	B♭ E♭ A♭ D♭	4
D♭ (=C♯)	B♭ E♭ A♭ D♭ G♭	5
G♭ (=F♯)	B♭ E♭ A♭ D♭ G♭ C♭	6
C♭ (=B)	B♭ E♭ A♭ D♭ G♭ C♭ F♭	7
F♭ (=E)	B♭♭ E♭ A♭ D♭ G♭ C♭ F♭	8
B♭♭ (=A)	B♭♭ E♭♭ A♭ D♭ G♭ C♭ F♭	9
E♭♭ (=D)	B♭♭ E♭♭ A♭♭ D♭ G♭ C♭ F♭	10
A♭♭ (=G)	B♭♭ E♭♭ A♭♭ D♭♭ G♭ C♭ F♭	11
D♭♭ (=C)	B♭♭ E♭♭ A♭♭ D♭♭ G♭♭ C♭ F♭	12

For the notational structure of these ♭ scales see fig. 12.

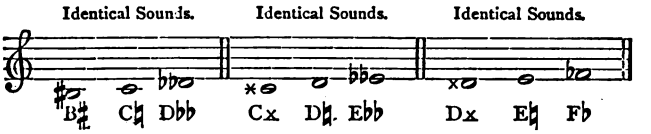
The scales in the above lists practically regarded as equivalent to that of C, are respectively those of B♯ and D♭♭. But these, it is evident, are not the only equivalent scales.

The process of substitution, as we have seen, whether applied to the formation of ♯ or of ♭ scales, inevitably results in the production of five additional and essentially different sounds, which, being arranged in a step-wise order of graduated pitch, effect, by the separation of the several tones of the scale into each its equivalent semitones, the resolution of the entire scale into a semitonal series of twelve (figs. 11 and 12). (Art. 37 (1.)

Now, as virtually the same result is brought about by the two distinct and opposite processes respectively of elevation and depression, it follows that each of the notes employed to indicate the intermediate sounds added by way of substitution receives presentation under two distinct notational forms. It is either expressed by the note of the original scale next *below* with a prefixed (♯).

or that next *above* with a prefixed (♭) (compare lowest staves of figs. 11 and 12). And the notes being equivalent, the scales founded upon them must by parity of reasoning be likewise equivalent. Indeed, a consideration of fig. 58 will show that virtually

Fig. 58.



the same sound (and hence the scale based thereupon) may—not to go further than 𝄪s and ♭♭s—be exhibited in even *three* distinct ways, viz., either (1) as a ♮, (2) as *either* the ♯ or the 𝄪 of the note below it, and (3) as *either* the ♭ or the ♭♭ of that above.

But restricting, as exhaustive for all practical musical purposes, the cycle of keys within the limits prescribed by C and its equivalents B♯ and D♭♭ respectively, and forming a total of twenty-five keys, it follows, since there are practically only twelve distinct keys, that, if employment be made of only one name for each scale, there are in all thirteen equivalent and seemingly superfluous methods of noting scales. Does any necessity exist for the retention of this at first sight apparently redundant notation? The answer is, Yes, most decidedly; for since music consists rather in the application of the main principle of the relation of sounds than in the manipulation of a limited series of *fixed* sounds, the varying and practically duplicate methods of notation are retained, if at the expense of a degree of complication, as truer to the thing signified than would be an adoption of a notation certainly involving fewer signs, but often inexpressive, dubious, and—as ignoring the very foundation and key-stone of music—positively misleading, and even false.

While, however, the notational aggregate above depicted is, in its most advanced forms, necessarily retained in theory, and occasionally found in practice, musicians, as a rule, avoid writing in the more *extreme* keys—keys, *i.e.*, which, as involving in their notation a large number of sharps or flats, are the most removed from the central or natural key of C.

A selection from the complete series of scales, consisting of the natural, together with the first six or seven ♯ and ♭ scales respectively, as affording an accurate exhibition of a sufficiently extensive

collection of musical relations, is that most frequently employed in music. (See figs. 11 and 12, where the commonly *accepted* scales are denoted by asterisks. Compare also figs. 59, 60.)

136. By the application of the characters × and 𝄫, each of the 12 sounds, of which, as a consequence of the addition of the collection of five, any scale consists, may receive a threefold notational aspect and corresponding designation. (Fig. 58.)

It would be obviously very inconvenient to the eye, as well as productive of much unnecessary fatigue, if constant repetition were made on every occasion when needed of the sharps and flats necessary to the exhibition of a key. Hence they are prefixed in a group, once for all, at the beginning of each fresh stave after the clef and before, where this latter occurs, the time signature, and thus become the distinctive and instantaneously recognised *badge*, in every instance, of the key which they denote.

137. The alterative signs collectively used at the beginning of each fresh stave to denote the key are termed the key signature, or, familiarly, the signature.

The term key-signature is used in contradistinction to the denotation of the rhythmical arrangement of a movement, known as the *Time* signature (Art. 162).

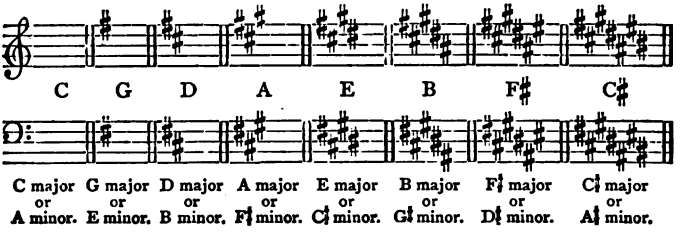
Since, however, (1) such rhythmical arrangement is in the great majority of cases at once ascertainable from an inspection of the measures, and since (2) it is highly necessary that the important question as to the principal scale or key of a piece should admit of no doubt, and that its indication should, for purposes of instantaneous and ready reference, be continually before the eye—for in almost all, even the simplest, compositions are found *changes* of key—this notational key badge is known pre-eminently as *the* signature, and is placed upon every fresh stave of the music.

138. The key-signature is placed (1) at the head of every fresh stave of the music, and (2) wherever there occurs any permanent and extended *change* of key.

The following are the key-signatures, exhibited upon both the treble and bass staves, of the various scales in general use (Art. 135), exhibited in figs. 11, 12, and 56, 57:—

SHARP SIGNATURES.

Fig. 59. Compare figs. 11 and 56.


C G D A E B F♯ C♯
C major or A minor.
G major or E minor.
D major or B minor.
A major or F♯ minor.
E major or C♯ minor.
B major or G♯ minor.
F♯ major or D♯ minor.
C♯ major or A♯ minor.

FLAT SIGNATURES.

Fig. 60. Compare figs. 12 and 57.

C F B♭ E♭ A♭ D♭ G♭ C♭
C major or A minor.
F major or D minor.
B♭ major or G minor.
E♭ major or C minor.
A♭ major or F minor.
D♭ major or B♭ minor.
G♭ major or E♭ minor.
C♭ major or A♭ minor.

The uniformity attending the application of the symbols ♯ and ♭, &c., extends also to their expression as signatures, exceptions being made solely for the purpose of restricting them within the limits of the stave. In ♯ signatures, the sharps alternately fall a 4th and ascend a 5th, while in the ♭ signatures an opposite order is adopted.

In old signatures, even as late as the time of Handel, the last ♯ or ♭ of the signature was often omitted, and received expression where required as an *accidental* (Art. 141).

CHAPTER XIII.

The Minor Mode.

THE order of disposition of the sounds of the common scale, known as its minor mode, as being subject to only occasional modifications—chiefly of its 6th and 7th sounds—fittingly presents, so far as its notational aspect is concerned, no essential difference to the eye from that of the ordinary or normal series. Or, in other words, a major scale and its relative minor, or *vice versa*, a minor scale and its relative major are denoted, and this most appropriately, by the *same signature.*

139. The signatures of the minor are the same as those of the relative *major* modes of the several scales. (See figs. 59–62.)

140. Since a scale or key is named after its first or initial note (Art. 29), it follows that the minor is denominated after the 6th note of its relative major. (Figs. 59, 60).

Thus the relative minor of C is known from its first note as *A* minor, that of G as *E* minor, and so forth. (See fig. 59.)

In the expression of the occasional substitutional (*i.e.*, chromatic) alterations incident to the minor mode, those, viz., chiefly of its 6th and 7th sounds, recourse is had to the employment of *accidentals.*

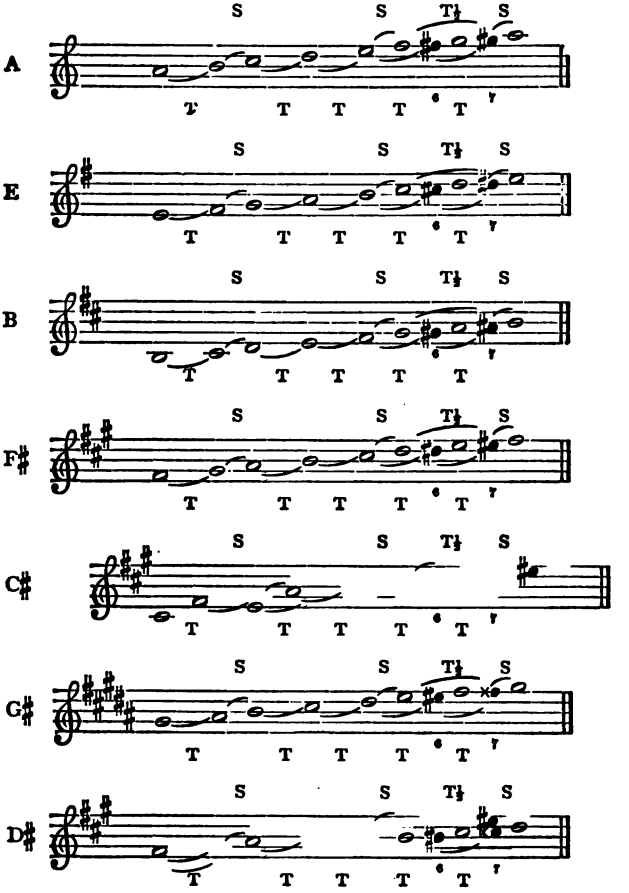
141. Signs of elevation or of depression (whether ♯, 𝄪, ♭, 𝄫, or ♮) employed in musical notation, as occasion requires, and as distinct from the key signature, are termed accidentals.

From the nature of the construction of the various major scales, it follows (1) that the minor mode of a scale will require for the due expression of its altered 6th and 7th sounds the aid of either (*a*) a ♮ (*b*) a ♯ or (*c*) a 𝄪, according as such sound is normally represented by (*a*) a ♭, (*b*) a ♮, *i.e.*, the absence of either a ♯ or a ♭, or (*c*) a ♯; and (2) that certain forms of the minor will necessitate the employment of more than one species of accidental (see figs. 61, 62).

The following is a list of the several minor scales in ordinary use, the ascending order as involving both modes of alteration alone being given, with in each case their signature and mode of construction (figs. 61, 62).

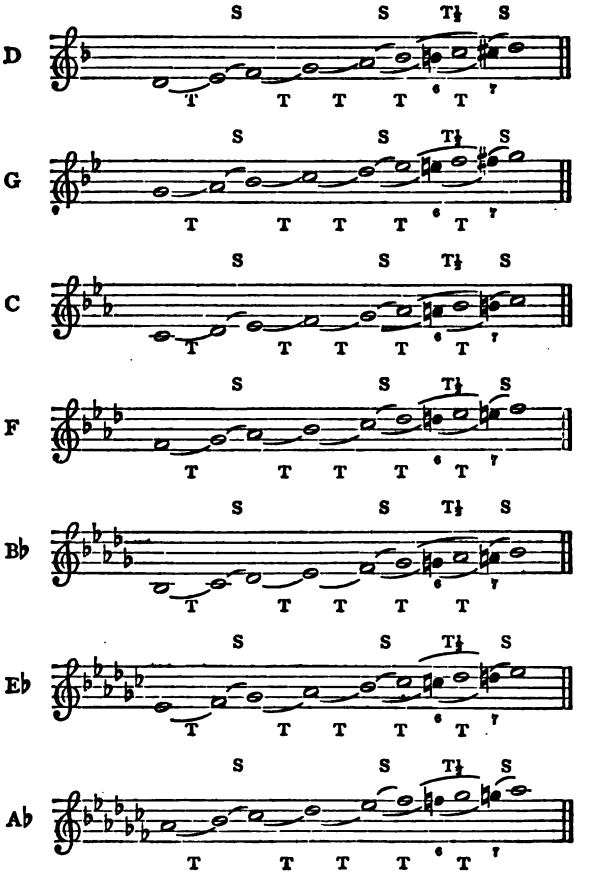
RELATIVE MINORS OF KEYS WITH SHARPS.

Fig. 61. Compare figs. 11 and 59.



Relative Minors of Keys with Flats.

Fig. 62. Compare figs. 12 and 60.



In order to obviate the frequent use of accidentals which forms a characteristic of the notation of the minor mode, various proposals for distinct minor signatures have been put forward from time to time. From the fact, however, (1) that when compared with the accumulation of inconveniences which would attend the adoption of even the most philosophical of these, the lesser evil involved in the use of occasional accidentals sinks into utter significance, and, moreover, (2) that such occasional employment is truer to the thing sought to be expressed—the nature, viz., of the actual relation existing between the two modes—the fixation of the ordinary major or normal, and the variable, subordinate, dependent—parasitical, so to speak—nature of the *minor*, such projects have never received the serious support and countenance, generally, of musicians.

The following are some of the main objections to the adoption of distinct minor signatures :—

(1) That owing to—as compared with the normal major—the exceptional and restricted employment of the minor, such signatures are, to say the least, inexpedient, and (*a*) would not only result in the exaltation of the particular, at the expense of the general, but (*b*) as a consequence of the very extensive—often fragmentary, broken and disjointed—use of the relative major, in professedly minor compositions, and the entailed employment to express *this* of accidentals—fail to obviate the use of these last-named characters as connected with the exhibition of musical mode. (2) That such signatures would be liable—and this in a very great degree—to confusion with those of the major mode. (3) That such signatures, owing to their irregular mode of formation, as well as to the fact that they are superposed upon the one uniform set employed alike for major and minor, would present unnecessary and formidable difficulties to the learner.

CHAPTER XIV.

The Chromatic Scale.

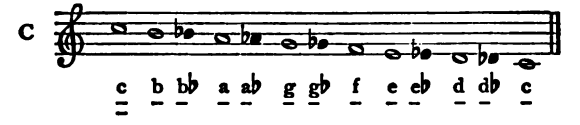
As resulting in its ascending and its descending order from the application respectively of the opposite processes of elevation and depression, the chromatic scale, upon any sound, is appropriately depicted notationally (1) in ascending by means of signs of elevation, and (2) in descending by means of signs of depression ; in the former case, the note to be *chromatically altered* being prefixed by

a (♭), (♮), (♯), or (×), according as such note is already either (♭♭), (♭), (♮), or (♯); in the latter such note being prefixed by respectively a (♯), (♮), (♭), or (♭♭), according as such note is already either (×), (♯), (♮), or (♭).

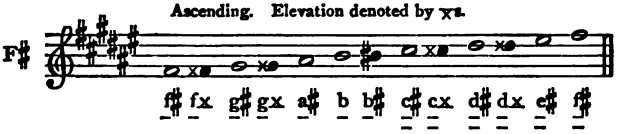
CHROMATIC SCALES.

Fig. 63. Ascending. Elevation denoted by ♯s.

Descending. Depression denoted by ♭s.

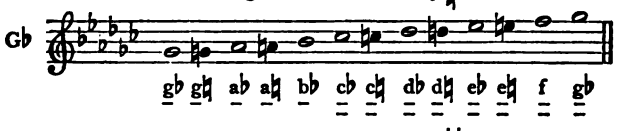


Ascending. Elevation denoted by ×s.



Descending. Depression denoted by ♮s.

Ascending. Elevation denoted by ♮s.



Descending. Depression denoted by ♭♭s.

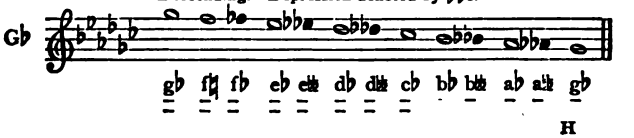


Fig. 63 affords examples of these processes. A comparison of the fourth and fifth staves of fig. 63 will reveal an instance of the application of the ♮ in its double function as respectively a sign of *elevation* and of *depression*, and to denote in this particular instance virtually the same individual sounds. (Art. 135.)

The alphabetical notation treated of in Art. 128 may, it is evident, be so modified by the use of appended accidentals as to express the sounds of *any diatonic*, *chromatic*, or *enharmonic* scale. Thus the ascending chromatic scale upon c (one-lined c) would be depicted as follows : c, c♯, d, d♯, e, f, f♯, g, g♯, &c. See also the appropriate letters attached to fig. 63.

As the alphabetical constitutes, pre-eminently, a notation of *absolute*, so does the syllabic of *relative* pitch. Considered in this its proper function, the syllables *Do*, *Re*, &c., are employed to designate respectively the 1st, 2d, &c., sounds of *any* major scale at *whatever* pitch, the 1st or key note of such scales being invariably termed *Do*, the 6th note (which is the first of the relative minor) *La*.

For the expression of the sounds of the chromatic scale, various modifications of the above syllables have been proposed and tried. Since, however, the relation existing between any sound, and that constituting its chromatic alteration, is invariable—that, viz., of the chromatic semitone, expressed by the ratio (24:25)—and thus the mental effort requisite for its realisation by the mind and its subsequent production in performance uniform ; the retention *in delivery* of the syllable used to designate the original diatonic sound in an unaltered form certainly involves a lesser evil than the accumulation of a variety (not less than fourteen—one, viz., for each chromatically altered scale-note) of fresh syllables.

DIVISION II.—NOTATION OF RHYTHM.

CHAPTER XV.

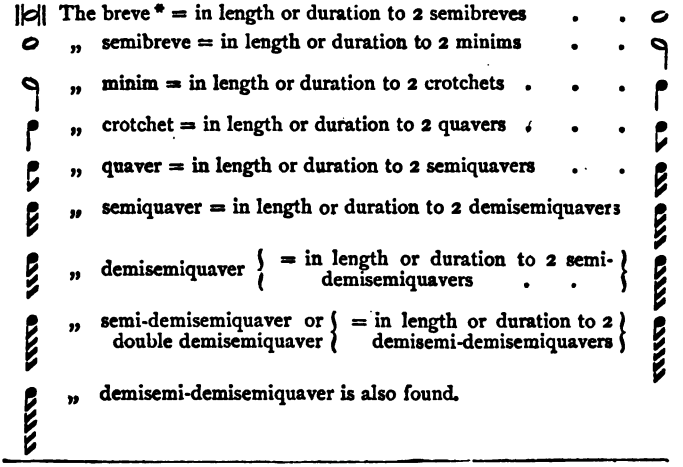
§ 1. Relative Duration. (1) Sound.

142. As the *relative pitch* is determined by the *stave position*, so is the *relative duration* of a sound determined in the first instance by the *shape* of its representative note.

(a.) The Binary Relation.

143. The following are the several note forms made use of in modern music, and, in the absence of further modification, serving to represent a series of sounds standing, so far as their relative prolongation is concerned, in the simplest of all relations—the binary—since each successive note indicates a sound either twice or a half as long as its neighbour, according as selection is made of the longer or the shorter sound, in the first instance, as a starting point (fig. 64).

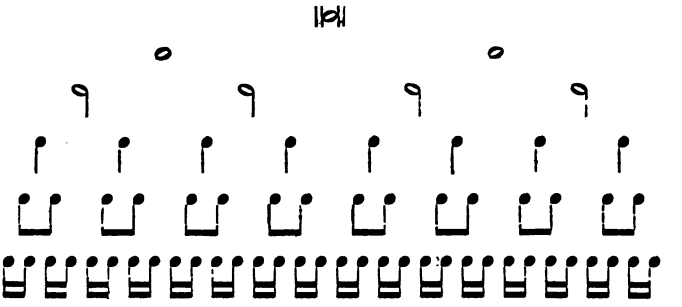
Fig. 64.


The breve * = in length or duration to 2 semibreves
„ semibreve = in length or duration to 2 minims
„ minim = in length or duration to 2 crotchets
„ crotchet = in length or duration to 2 quavers
„ quaver = in length or duration to 2 semiquavers
„ semiquaver = in length or duration to 2 demisemiquavers
„ demisemiquaver = in length or duration to 2 semi-demisemiquavers
„ semi-demisemiquaver or double demisemiquaver = in length or duration to 2 demisemi-demisemiquavers
„ demisemi-demisemiquaver is also found.

* Rarely used except in Church music.

The adaptability of the foregoing characters to the expression of the binary relation (that, viz., involving 2 and its powers) will be more apparent from an inspection of fig. 65, where it is shown that a 𝄆 is related to a 𝅝 in point of duration as 2 : 1, to a 𝅗𝅥 as 4 : 1, to a ♩ as 8 : 1, to a ♪ as 16 : 1; a 𝅝 to a 𝅗𝅥 as 2 : 1, to a ♩ as 4 : 1; a 𝅘𝅥𝅯 to a ♪ as 1 : 2, to a ♩ as 1 : 4, to a 𝅗𝅥 as 1 : 8, and so forth.

Fig. 65.



It is obvious that by means of the collection of note forms exhibited in fig. 64, all of which constitute modifications of the original type form of point or dot (• or ○) * any variety of binary relation expressible by numbers, ranging between 1 and 256=(2^8) can be expressed. The appropriateness of thus primarily basing the expression of the durational element in musical rhythm, both as regards sound and silence (see fig. 71), upon its simplest and most extensively employed relation—and that by the employment of a series of orderly and progressive modifications of an original type, collateral and strictly corresponding with those of the original durational prime itself—will be seen to constitute an excellence of the—in all essential points—well-considered universal musical notation.

(b.) The Ternary Relation.

Next in order of simplicity to the binary comes the ternary relation, expressed by the ratio 1 : 3 and its multiples.

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* Hence the term counter-*point* (see Part II., Division II.) The first note forms consisted of veritable *points*.

144. The ternary relation, both simply and in combination with the binary, is exhibited notationally in either of the two following ways:—

(1) By the addition to each of the several note forms of the point of prolongation or augmentation known as the *dot.*

145. A dot added to a note or rest (see Art. 152) increases its length by one-half.

Thus, a (read dotted breve) lasts as long as a breve and a half, *i.e.*, three semibreves (𝅜 𝅜 𝅜), and consequently stands to this latter and note of next shortest duration in the ratio of 3 : 1, while a (read dotted semibreve) = a semibreve and a half, or three minims (𝅗𝅥 𝅗𝅥 𝅗𝅥), and thus stands to the minim 𝅗𝅥 in the same ratio of 3 to 1, and so with the rest.

(2) By the substitution for each of the simple unmodified note forms of a *threefold* in lieu of its normal *twofold* division, such division being indicated by the employment in every case (as equivalent) of *three* for every *two* of the characters of next shortest duration to the undivided note form. For the sake of clearness, the groups of *three* substituted as equivalent for those of *two* are commonly denoted by the superaddition of the numeral 3, and are termed *triplets.*

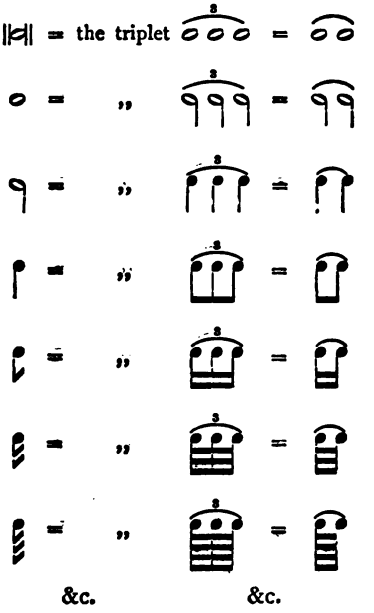
Sometimes, however, the appended numeral is omitted, this being the case, *e.g.*, when from the mode of grouping, or from the context, the triplet structure is sufficiently apparent—a case of not unfrequent occurrence in accompaniment.

146. A triplet may be defined as a collection of any three notes equivalent in value to two of the same rhythmical name and form, and generally denoted by the super-addition of the numeral 3.

In figs. 64, 65, it is shown that any note form indicates a sound

equal in length to *two* of the next lowest duration, and thus stands thereto in the binary relation of 2 : 1. If, now, instead of *two*, *three* of such characters be substituted and accepted as equivalent in duration to both the original *two* and the undivided note, there results the expression by means of the triplet of the *ternary* relation. The following fig. 66 exhibits the method of forming triplets from each successive note form :—

Fig. 66.



The triplet is subject to the same notational modifications as are the normal binary forms. Thus a triplet may be either (1) binarily, ternarily (into other groups of triplets *i.e.*), or even otherwise divided; (2) any of its component notes may be aggregated into a larger whole, or (3) it may comprise inserted *rests*. Moreover, these several modifications may be combined.

Fig. 67 affords an illustration of each of these methods of modificatio-

Fig. 67.

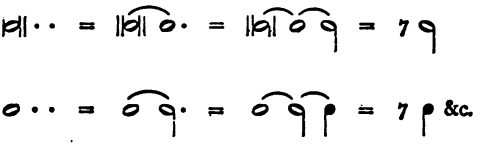
For an explanation of (2) and (3) see respectively Arts. 148, 150, and 152.

It might at first sight naturally have been expected that, with a new and important relation to express, the notation of music would have called into requisition a new species of note-form. But this would have entailed the encumbrance of the written language of music with a multitude of additional signs, necessitating a corresponding complication and difficulty of discrimination and comprehension. That, in lieu of such an elaboration, recourse should have been had to a simple and natural modification of the existing binary symbols, affords a strong proof of the value of the long series of inductions which have resulted in the present universally-employed system.

(c.) The Septenary and other Relations.

147. The effect of a *second* dot of prolongation, or as it is termed *double* dot (sometimes employed), is to increase the duration of a note by half the length, denoted by the first. By its aid may be concisely expressed the septenary relation as follows :—

Fig. 68.



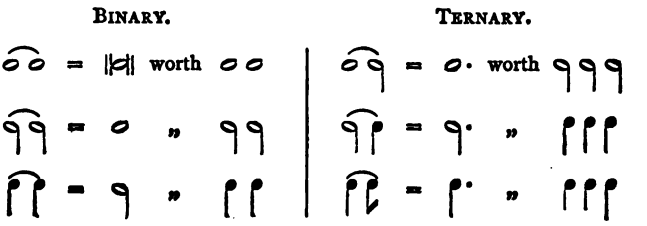
A third dot is also occasionally found; but since the accumulation of minute notational distinctions, by tediously wearying the attention of the reader in discrimination, serves, from the consequent facility to error, only to defeat its own object, the use of this expedient is not recommended.

148. The various relations of duration often receive expression by the aggregation of as many notes as required, and their indication as one prolonged sound by means of a character termed the *bind* (⁀). By the aid of this symbol any durational relation whatever may, it is plain, be expressed.

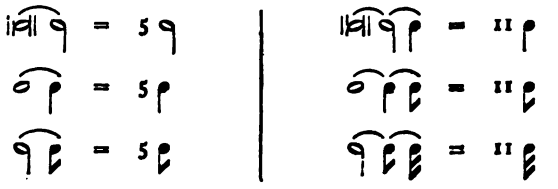
149. When placed between two notes occupying the *same* degree of the stave, the *tie* or *bind* (⁀) prescribes their recognition in performance as one single undivided duration.

The following are examples of the representation of a variety of durations by means of the bind :—

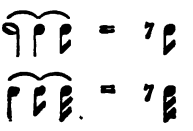
Fig. 69.



QUINARY. UNDENARY.

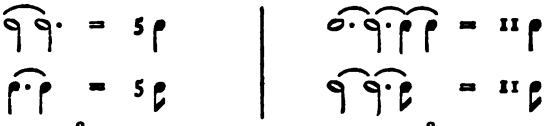


SEPTENARY.



or with *dots*—

QUINARY. UNDENARY.



&c. &c.

Occasionally other relations than the ternary (*e.g.*, the quinary, septenary, &c.), receive a method of representation by equivalents and appended numerals, analogous to that involved in the use of the triplet.

This is the case with the irregularly-constituted groups (Art. 69), known respectively as quadruplets, quintuplets, &c.

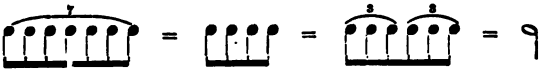
The following are examples :—

(1) The quadruplet or collection of 4 notes equal in value to 3.

(2) The quintuplet or collection of 5 notes equal in value to 4.

(3) The sextuplet or collection of 6 notes equal in value to 4. Of this there are two forms distinguished by the accentual disposition of their component notes (fig. 79). The variety resulting from the aggregation of two triplets is most correctly termed the double triplet, the remaining one constituting the sextuplet proper.

(4) The septuplet or collection of 7 notes equal in value to 4 or 6.



(5) The nonuplet or collection of 9 notes equal in value to 8 or 6.

(6) The decuplet or collection of 10 notes equal in value to 8.

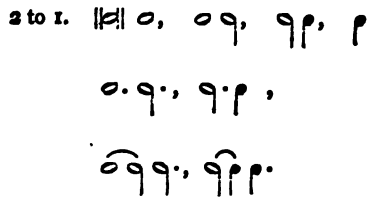
The various other analogous irregular groups are similarly denoted, and not always, be it observed, with absolute correctness as to the species of note-form employed, the appended numeral being often thought sufficient to indicate the nature of the subdivision.

Not the least striking feature presented by a consideration of the notation of musical rhythm consists in the numerous and varied methods which it employs for the expression of the same fundamental effect. Nor is this to be looked upon in the light of a defect or even as a source of serious difficulty in acquirement to the learner. On the contrary, it rather constitutes a point of recommendation and excellence.

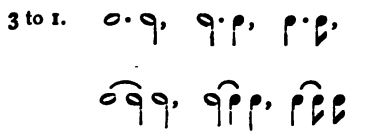
It is inseparable from a written language aiming at the expression of the multitudinous and complicated relations characteristic of developed musical composition, that it should be marked by a corresponding copiousness of resource. The following (Fig. 70) are a few instances—selected from a very large variety—of different modes of presenting identical ratios of duration and, consequently, *effects*:—(*Cf.* also Figs. 64, 65, 66, 68, and 69.)

Fig. 70.

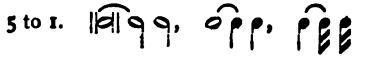
BINARY RELATION.

2 to 1. 

TERNARY RELATION.

3 to 1. 

QUINARY RELATION.

5 to 1. 

It was formerly, and is still very extensively, practised to exhibit the lighter orders of composition by the help of the *shorter*, the more serious and severe by that of the *longer* note-forms; but this mode of employing the symbols is by no means without exception.

(2.) Silence. Rests.

150. In order to denote the durations of silence, or cessation of sound occurring during the course of a composition, characters called *rests*, corresponding in value with the several note-forms, from which also they derive their names, are employed.

151. The following (fig. 71) are the rests made use of in modern music, together with their names and durational value. (Compare fig. 64.)

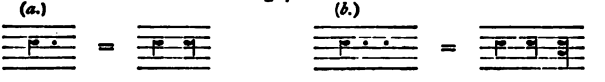
Fig. 71.

The breve rest . .		equal in length or duration to 2 semibreve rests.
The semibreve rest .		equal in length or duration to 2 minim rests.
The minim rest . .		equal in length or duration to 2 crotchet rests.
The crotchet rest . .		equal in length or duration to 2 quaver rests.
The quaver rest . .		equal in length or duration to 2 semiquaver rests.
The semiquaver rest .		equal in length or duration to 2 demisemiquaver rests.
The demisemiquaver rest		equal in length or duration to 2 semidemisemiquaver rests.
The semi-demisemiquaver rest		equal in length or duration to 2 demisemi-demisemiquaver rests.
The demisemi-demisemiquaver rest . .		is also found.

152. The rules laid down, with regard to the rhythmical note-forms, apply also to the rests.

Thus rests (1) may be employed (*a*) with the dot, (Art. 145) as *e.g.*, at fig. 72 (*a*), and even with the double dot (*b*); but this last connection is not recommended, since tending to difficulty in discrimination.

Fig. 72.



(2) They may be inserted in triplet forms as in fig. 67. (3) They may be aggregated and interspersed amongst notes in any order as required.

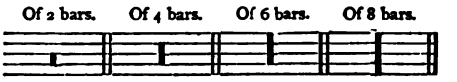
The valuable attributes of simplicity and order, manifested in the strict analogy existing between the modifications of respectively the note and the rest forms, from the crotchet (♩) downwards, should not be lost sight of by the student. (Compare figs. 64 and 71.)

The rests may be placed upon the stave where most easy of discrimination. Frequently, in staves embracing more than a single succession of notes, ledger lines are employed for the purpose.

Rests of a whole bar in extent, in all species of measure, whether duple or triple, lower than $\frac{4}{4}$, are commonly denoted by a semi-breve rest ; but this method of indication is for the sake of clearness, and to avoid confusion limited to *complete* bars.

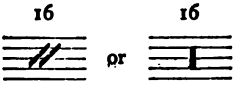
Rests of two whole bars, and upwards, may be denoted (1) by the aggregation of a sufficient number of breve rests as follows :—

Fig. 73.



(2) In the case of large intervals of cessation, the following plans are generally adopted as preferable :—

Fig. 74



the number of silent measures being indicated by an appended numeral.

(3.) Indefinite Notation of Duration.

In addition to the foregoing systematic and regular notation of rhythmical duration, a number of additional directions and signs having merely an approximate signification are employed.

153. A pause (𝄐) placed over or under a note pro-

longs the same beyond its normal duration, indefinitely according to the discretion of the performer. The direction *lunga pausa* is sometimes used.

154. A continuous and smoothly-flowing succession of sounds without break of any kind is indicated by the term *legato* (It. *bound together*) or, in the case of single notes and short phrases, by the use of the *slur* (⁀).

155. The *slur*, (⁀) which is identical in form with the *bind*, (Art. 149) is only to be distinguished therefrom by its occurrence between two notes occupying *different* degrees of the stave. As the *bind* forms a link of continuous prolongation between two notes of the *same* pitch, so does the *slur* (or in a passage of some length the corresponding terms *legato*, *tenuto*, *ben tenuto*, *sostenuto* (see Glossary), prescribe a mode of treatment approximating to this as nearly as the altered circumstances of the case admit of—the prolongation, viz., of the several notes, with an entire absence of detachment, to, if possible, even more than their fullest extent. The extreme *legato* is denoted by the term *legatissimo*.

156. Opposed to *legato* is the term *staccato*, sometimes expressed by the signs dash (, .) or dot respectively; the former denoting the separation or detachment of notes so marked, by the insertion in performance of rests of about a *half*, the latter by the insertion of rests of about a *quarter* their length. An extreme application of the direction is found in the combination of the term with the rests and signs themselves.

157. Irregular and indeterminate deviations from strict durational order, and dictated by the feeling of the performer, are enjoined by the terms *tempo rubato*, *a piacere*, *ad libitum*, which denote, as deemed expedient, the undue prolongation of some, and the curtailment of others, of the notes of a passage or

phrase. In the case of accompanying parts a due regard for the *ad lib.* passage is secured by the direction *colla parte* or *c.p.* (*i.e.*, with the part). The resumption of the normal regularity after all such rhythmical breaks or deviations is prescribed by the direction *a tempo* or *al rigore del tempo.*

158. The regulation of the relative duration of the notes of a passage whose delivery is intended to be left entirely to the will of the performer, is denoted by the terms *senza tempo* or *senza ritmo.*

§ 2. Time.

159. As the *pitch* of a note is primarily determined by its *perpendicular*, so is its *rhythm* in the first instance indicated by its *lateral* or *horizontal* position.

160. Time measures (Art. 71) are pictorially exhibited, notationally, by means of lateral spaces enclosed between upright strokes at right angles to the stave, termed *bars* (sometimes bar-lines)—the measures or enclosed spaces themselves, together with their contents, being, moreover, by a figure of speech, commonly denominated bars. (Fig. 75.)

Fig. 75.

161. The termination of important sections of a movement is commonly indicated by *double* bars, often prescribing a suitable pause in performance. (Fig. 75.)

As an extended consequence of the variety of resources afforded by the linear notation for the exhibition of one and the same durational effect, and which previously received exemplification in the

case of the ratios of duration as expressed by the note-forms, simple duple time is commonly indicated in one of three, simple triple in one of three, compound duple in one of six, and compound triple in one of three distinct ways. To take the various species of time in order.

(1) Simple duple time is expressed by a uniform series of bars containing the durational value of either (*a*) 2 𝅝, termed *great allabreve*; (*b*) 2 𝅗𝅥, termed *little allabreve*, or (*c*) 2 ♩.

(2) Simple triple time by measures containing the durational value of either (*a*) 3 𝅗𝅥, (*b*) 3 ♩, or (*c*) 3 ♪.

(3) Compound duple time (if formed of measures of simple *duple*) by measures containing the value of either (*a*) 4 𝅗𝅥 (= 2 of 2 𝅗𝅥), (*b*) 4 ♩ (termed *whole* bars) = (2 of 2 ♩); but if formed of measures of simple *triple*, by measures containing either (*a*) 6 ♩ = (2 of 3 ♩), (*b*) 6 ♪ = (2 of 3 ♪), (*c*) 12 ♩ = (4 of 3 ♩ or 2 of 6 ♩), or (*d*) 12 ♪ = (4 of 3 ♪ or 2 of 6 ♪).

(4) Compound triple by measures containing the value of either (*a*) 9 𝅗𝅥 = (3 of 3 𝅗𝅥), (*b*) 9 ♩ = (3 of 3 ♩), or (*c*) 9 ♪ = (3 of 3 ♪).

162. The species of time in which a piece of music is written is indicated at the beginning of the latter by what is known as the *time signature.*

As the longest note in general use in modern music, and that most closely approximating to the original, primitive and simple form from which all the remaining ones are derived, selection has fittingly been made of the *semibreve* (𝅝) as a standard of reference in the notational designation of the several species of time.

The contents of each bar of a movement are numerically expressed in the time signature as a *fraction* of a semibreve; the denominator (*lower* number) representing the aliquot part of this selected as a unit of measurement, and the relation therefore which such selected part or note bears durationally to the semibreve, the numerator (*upper* number) the number of such parts taken to form each complete bar of the piece.

Thus in the case of the particular species of simple triple, comprising bars composed respectively of 3 𝅗𝅥, the numerical

designation $\frac{3}{2}$ is employed, the denominator 2 denoting that part of a semibreve chosen as an integral unit of bar measurement (principal part), viz., a 𝅗𝅥—its half ($\frac{1}{2}$)—the numerator serving to show that each bar is made up of the value of 3 such notes.

An exception to the numerical mode of designation of time measures is found in the case of that species of duple time indicated by 4 crotchets in a bar, which receives denotation by the character 𝄵 or 𝄶—originally a half circle—a character, however, which, together with the appellation *common*, is applied somewhat indiscriminately to all the varieties of duple time (formed by the aggregation of simple *duple* bars) of greater extent than $\frac{2}{4}$. It should be added that the barred 𝄶 is now very commonly employed, and by many *restricted* to indicate the species of simple duple time, $\frac{2}{2}$, taken quickly.

163. The time signature is placed (1) at the beginning of each stave of the first line of a movement, immediately after the key signature, and (2) at the place in a movement where any change of time (measure) is effected.

Unless otherwise indicated, it is generally understood that upon the occurrence of a change of measure, no alteration shall be effected in the absolute duration previously assigned to the several note forms.

This rule is, however, by no means without exception. For greater clearness the direction *L'istesso tempo*, or *medesimo tempo* (*i.e.*, the same pace), is often attached.

Occasionally a virtual alteration of time or measure is met with, unattended by the naturally-expected change of *notation*. Such instances—as essentially presenting a new species of time, by means of a notation manifestly not primarily adapted to the exhibition of this—necessarily impose special difficulties upon the performer in the matter of discrimination, and are therefore strictly exceptional. They have received the denomination of *tempo d'imbroglio*, or *della confusione*.

The following are the signatures and bar values of the various species of time generally employed in modern music. (Fig. 76.)

Fig. 76.

§ 3. Absolute Duration.

164. The absolute duration of the sounds of a musical composition, or, in other words, the actual *pace* or *rate of*

movement at which it is taken, receives (1) sometimes an *exact*, (2) sometimes an *approximate* indication. In the absence of *any* such external indication, a case commonly exemplified in Psalm tunes and other short vocal pieces, the character and sentiment of the words must be accepted as a guide.

The actual length of musical sounds, and, therefore, their precise *rate* or *pace* of succession, can be determined with strict exactness only by reference to an instrument of time measurement. The standard of reference commonly adopted by musicians is that known from its inventor as Maelzel's Metronome, a mechanical contrivance consisting of a pendulum capable of adjustment by means of a movable weight to a variety of rates per minute, together with a dial containing a scale or table of degrees for the purpose of determining and recording such rate in any given instance. A unit of measurement or—as far as *duration* is concerned—measuring sound, having been chosen, and the number of these occupying a minute in performance ascertained, the former is then indicated by its corresponding note, the latter by the requisite numerals, both being placed at the commencement of the passage or movement whose rate is required to be fixed. To these also is prefixed the abbreviation M. or M.M. So that if in a particular instance selection is made of the crotchet ♩ as a unit of measurement, and to this is assigned say the 60th part of a minute (a second, *i.e.*) in duration, the necessary directions would read thus—M ♩ = 60.

The relative duration of a note being determined by its shape, it is obvious that the same metronomic rate of movement may be expressed in a variety of ways. Thus, *e.g.*, in the case now under consideration, since 𝅝 = 4 𝅗𝅥 and 60 𝅗𝅥 occupy a minute, 15 𝅝 would also occupy the same interval of time, as also for a similar reason would 30 𝅗𝅥, 120 ♩, 240 ♪, &c.

The practical advantage of this possibility of varying the mode of indication is seen in the fact that the dial of the metronome, since limited to the expression of a range comprised between 50 and 160 vibrations per minute, necessitates the selection as measuring unit of a duration (indicated by its corresponding note) the number of whose repetitions per minute is comprised within the 110 degrees of its graduated scale.

For this reason it is not always possible to select the durational note of most frequent occurrence in a movement as a unit of measurement, as would be the case, *e.g.*, in the instance of the rate of vibration previously specified when applied to compositions in which (*a*) either the 𝅝 or the 𝅗𝅥 or (*b*) the ♩ preponderated; since in the case of (*a*) a *shorter*, in that of (*b*) a *longer* duration would be required in order that such duration might receive expression by means of the metronomic scale.

Sometimes a dotted note is employed.

Although invaluable in cases of doubt as an undeviating standard, in the last resort, of arbitration, and highly useful in the earlier stages of musical practice as a means of engrafting a just and necessary sense of rhythmical duration or time (considered from a mechanical point of view), still, as useless in determining the numerous undefinable fluctuations and irregular rhythmical deviations inseparable from the only true expression of a composition—that, viz., springing from an appreciation of its character and scope,* and having its origin in an ever-prompting *feeling*—the introduction of the metronome has failed to abrogate the employment of the older and (since more suggestive) *truer* method of indicating musical *pace* or rate of movement—the *approximate* method, viz., involved in the use of certain verbal directions.

The absolute duration or rate of movement of musical sounds is indicated approximately by means of certain Italian terms appended to the several staves, as to the strict or, even in all cases, relative signification of which—their meaning differing, moreover, in successive periods of musical history—composers are not agreed. A recommendation of these several terms is to be found in their suggestiveness in some instances of the general *character* of the composition to which they are prefixed. Although subject to some variety of reading, the terms in question may be arranged in the following approximate order, ranging between the extremes respectively of slow and quick.

The three principal rates of speed, viz., slow, medium, and quick, with their primary extension to five variations (Arts. 80–82), are respectively indicated by the following group of terms, arranged in order of progressive quickness,

---

* Variations in the pace at which relative portions of a movement are taken frequently result from the special conditions of its performance, as, *e.g.*, in the execution of ornate progressions in vast areas.

(1) *Largo, Adagio,* Lento, Grave,*
(2) *Andante, Moderato,*
(3) *Allegro, Vivace,* and *Presto,*

terms in themselves representing a certain, although not strictly defined, metronomic range, and subject, moreover, to various secondary modifications indicative of corresponding fluctuations of feeling, for a full explanation of which, as also of the principal terms themselves, see Glossary.

Of the foregoing terms, *Andante* (lit. going) moving, *i.e.*, is commonly taken to represent a more or less medium pace, between which and *Largo* (large) (indicating movements of great solemnity and breadth) applied to the slowest pace of all—are found *Adagio* (leisurely, very slow), *Grave* (grave, heavy, solemn), and *Lento* (dragging or lingering)—the difference between these several terms, as customarily used, being rather one of character than of pace.

Of principal rates faster than *Andante* are found *Moderato* (denoting a slight increase in speed), *Allegro* (quick, lit. merry or cheerful), *Vivace* (quick, with animation, lively), and *Presto* (very quick).

CHAPTER XVI.

Force.—§ 1. Relative Force. Accent.

165. The place of chief accent in a measure is immediately after the bar. The bar or bar-line is invariably followed by, and is thus a means of indicating, the note of principal accent. (See fig. 76.)

The use of the bar constitutes the only *direct* notational appliance for denoting accent of universal application. As a consequence, however, of the lucid character of the pictorial notation of rhythm, afforded in its employment of a precise, well-defined, and orderly series of note-forms, together with their *lateral* method of arrangement, not only is the perception of the various subordinate accents of the measure ordinarily unattended by any great difficulty, it is on the contrary as a rule effected with certainty and ease, since (1) in the case of the longer note forms, those, viz., without crooks, the

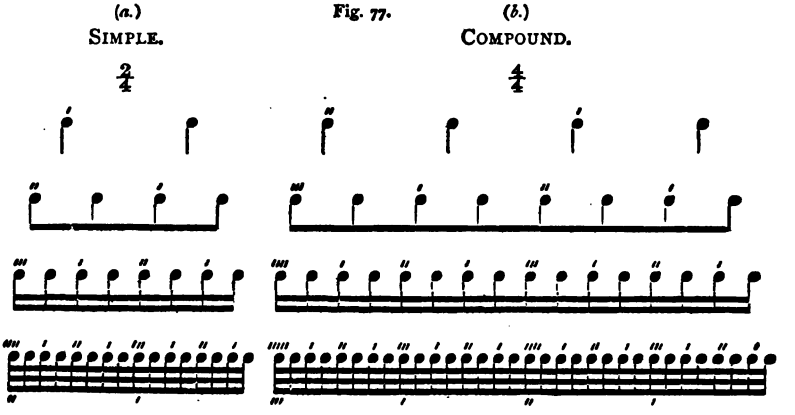
* *Adagio* is often taken faster than *lento.*

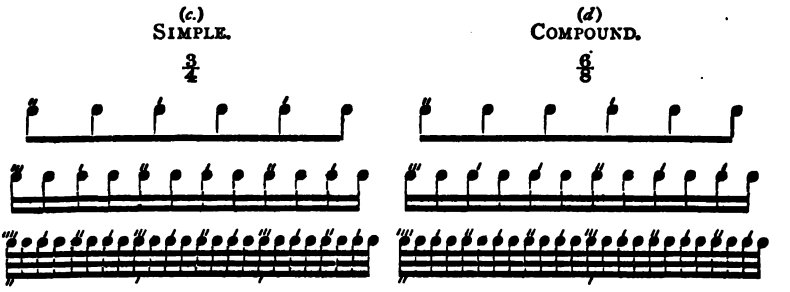
bar can rarely become unduly *crowded*, or, from its symmetrical constitution as invariably duple or triple, unintelligible at a glance, and (2) in all other cases the disposition of the bar as binary, ternary, &c., is at once perceived by reason of (*a*), in *instrumental* music, the employment of a corresponding grouping of *crooks* (see Appendix, *Music-copying*), and (*b*) in *vocal* music, where this is occasionally prevented by the succession of more than one syllable to a series of notes forming part of a group, the compensating presence of the *words*. And if, indeed, the perception of the various shades of accent *were* attended with a certain degree of difficulty, the collateral and compensating advantages presented in the common rhythmical notation of exhibiting the several other characteristic features and relations of rhythm would amply counterbalance the defect. In cases of exceptional difficulty, in the assessment of the contents of a bar, the operation is greatly facilitated by the elimination, in the first instance, of the most obvious and easily-recognised divisions.

It should be noted that the difficulty here alluded to exists only in the case of single melodies. In harmonic arrangements the mode of superposition of the *parts* upon the several staves effectually obviates misapprehension.

Fig. 77 presents for the student's guidance illustrative examples of subdivision of a variety of measures, the degree of accent being uniformly indicated by the number of acute accents relegated to the several notes. Unmarked notes denote relatively *unaccented* sounds—sounds, *i.e.*, of *weak* accent.

Fig. 77.





In this connection it should be noted that, as a rule, the more minute and extended the subdivision—and hence, in general, rapid the performance—the less rigid and binding in its details becomes the order of accent. Thus, the normal accentual sequence denoted by the *upper* accents in the lowest lines of fig. 77 (*a*) (*b*) (*c*) (*d*), would be rendered, in the great majority of cases, virtually as indicated by the *lower*—a smooth and flowing effect (the legitimate effect generally, in all such instances) being more acceptable to the ear than the perplexity that would inevitably result from its attempt to discriminate an elaborated, formal, and too mechanical graduation of accent.

A careful study of fig. 77, and of Arts. 87, 88, will enable the student to gauge the accentual order, generally, of rhythmical successions.

166. An *accidental* (Art. 141) affects every note of the same *name*, or any of its octaves (occurring after the point of introduction) in the same bar. If applied to a note prolonged from one bar to another, such accidental remains in force until the cessation of the note prolonged.

Thus, in fig. 78 (*a*) the ♯ should be applied in performance to the two higher as well as to the lower G, and the F♯ prolonged without alteration into the next bar—the succeeding F in bar two being, of course, ♮.

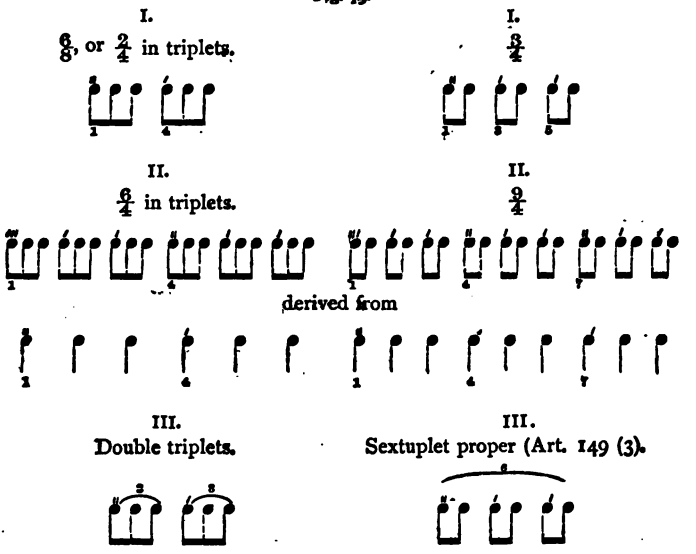
Fig. 78. (*a*)

When, however, the octave is employed, or when the repetition

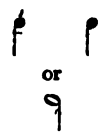
takes place at any considerable distance from the modified note, the accidental is commonly repeated (fig. 78 (*b*)); such a course being, in fact, pursued at the risk of a degree of duplication in every instance, where a doubt might arise in the mind of the performer as to the exact note intended. Thus the upper G of bar 1 of fig. 78*a* would, in the majority of instances, receive a prefatory ♯, the second F in bar 2 a prefatory ♮, and in harmonic passages written upon one same stave the simultaneous duplication within the bar of a sound by its octaves, would also be additionally marked. Care, however, should be taken to avoid overburdening the notation in this way, and thus defeating the object in view.

The notation of rhythmical duration is found to present instances not only of different methods of representing essentially the *same* effect, but also instances of modes of expression common to perfectly *distinct* effects. The following (fig. 79) are given as examples of the notational coincidences here adverted to—coincidences, however, whose essential differences of character, resulting from in each case a *distinct accentual disposition*, is easily perceived in practice alike by the aid of the context, or by that afforded in the collocation of the notes themselves, and their mode of grouping.

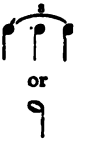
Fig. 79.



Accented notes 1, 4, derived from



Accented notes 1, 3, 5, derived from



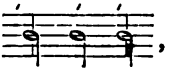
In the above figure the groups similarly numbered are identical as to the number and the relative duration of their component notes, but differ very materially as to the order of *accent* of these.

167. Emphasis or the rhetorical accent is ordinarily indicated, notationally, by

(1) The symbol > or ʌ.

(2) The terms *sforzato, sforzando* (*sf*), *rinforzato* (*rsf*).

(3) In a higher degree by *sforzato assai* (*sff*) or *sfz* >.

The following are examples of the species of emphasis known as syncopation (Art. 89), a term derived from the original practice of *cutting* the bar by means of the syncopated note, thus  , now superseded by the use of the bind .

Beyond the sufficiently indicative expedient involved in the intersection of the bar by means of the bind, no other special notational means are employed in the exhibition of syncopation. The contents of a syncopated measure are, however, by reason of their diverse disposition to the normal, easily taken in by the eye.

The effect of syncopation, as previously explained (Art. 90), is to throw the accents forward by the extent of the weak or syncopated note.

The following (fig. 80) are instances of rhythmical inversion (Art. 90). The notes employed as in fig. 80 (*a*) are termed, from the militation of the grammatical and rhetorical accents, *driving* notes.

Fig. 80. (*a*)

(*b*)

§ 2. Absolute Force.

The actual degree of force regulating the delivery of a musical succession is to some extent indicated by the employment of a variety of verbal directions and of a few signs.

The five main degrees of force, ranging between the extremes of very soft and very loud, are respectively denoted by the following terms, or by their initial letters :—

pp, sometimes *ppp*,	*pianissimo* .	. { as soft as possible— very soft.
p	*piano* . .	. soft.
mf	*mezzo forte*	. { moderately loud— with medium force.
f	*forte* . .	. loud.
ff, sometimes *fff*,	*fortissimo* .	. { as loud as possible— very loud.

Gradual approximation between any of the foregoing is denoted by the terms cres., *crescendo* (or the sign <), getting gradually louder ; dim., *decresendo* or *diminuendo* (or the sign >), getting gradually softer.

Sometimes the *combination* of the signs (<>), termed the *swell*, is employed upon a single sound. Such sound is then termed an *explosive* tone.

The above, together with all other similar terms and signs, in no way interfere with the general distribution of relative force (accent and emphasis, *i.e.*) throughout a composition, as determined by its rhythmical notation. In the absence of these verbal and symbolic indications, a passage or movement is usually understood to require in its delivery a *medium* degree of force.

It must not be forgotten that the signification of the foregoing nomenclature of absolute force depends very considerably upon the special and varying conditions of performance.

PART II.

HARMONY AND COUNTERPOINT.

DIVISION I.—HARMONY.

INTRODUCTORY SECTION—DISTINCTION BETWEEN HARMONY AND COUNTERPOINT—DEFINITIONS.

168. The simultaneous and regulated combination in performance of musical sounds constitutes harmony.*

The science of harmony necessarily presents itself for consideration under a twofold aspect. From one point of view it may be regarded as comprising the laws regulating the nature and the mode of succession of joint *combinations* (considered severally in their entirety as independent wholes) of musical sounds, from the other as comprising those regulating the combined *progression* of separate *melodies*. While the term *harmony* is frequently restricted to denote the *former* of these aspects, to the *latter* is commonly applied the designation *counterpoint*.

Of the two aspects of harmony here enunciated, the first constitutes pre-eminently the modern, the second that taken by the old musicians. The music of the present time—the *Modern* or *Free* Style, as it is termed—is largely characterised by the manipulation of harmonic *masses*, and the frequent alternation, by way of *contrast*, of simple with complex sound-combinations, special effect being obtained by the colouring involved in the employment of exceptionally complicated (chromatic) tonal ratios,

* For the *notation* of harmony, see Appendix, *Score* and *Figured Bass*, the various sections of which latter should be studied in connection with the corresponding chapters of the present Part as severally indicated.

of peculiar methods of distribution (in certain specific regions, *i.e.*, of pitch, or of *timbre*), or of *selection*—involving, as this does, the processes of duplication and omission—of their component sounds. The music of the old masters—written in what is variously denominated the *Ancient*, *Diatonic*, *Strict*, or *Contrapuntal* Style—displayed its excellence in its conjoint and characteristic combination and interweaving of separate *melodies*—its development of melodic ideas. With *chords* (Art. 177) as such it had no concern.

In order to ensure excellence, the study and practice of harmony must be undertaken with reference to both these standpoints. In this respect the modern possesses greatly the advantage over the student of past times, since able to correct his essays by bringing them to the touchstone supplied by a fuller and more perfect knowledge of harmonic laws. It is for this, among other reasons, that the *associated*, as distinguished from the widely-prevailing *successive* study of harmony and counterpoint, is subsequently recommended. (See *Counterpoint*, Introductory Section.)

The distinction between harmony (using the term in its restricted application to mean merely the *combination* of sounds) and counterpoint may be expressed by the use of the respective designations, *monophonous* and *polyphonous* composition—the former denoting the subordination of harmonic masses in the treatment of one paramount melody or theme (melodic phrase or subject), the latter the conjunction of themes marked by a distinct individuality and of equal interest and importance.

169. The term *thorough bass*, applied to a species of musical shorthand, involving the use of *numerals*, is often (although incorrectly) used to denote the science of harmony. (See Appendix, *Figured Bass.*)

170. A succession of single sounds, intended to be rendered by some one voice or instrument (and to whose character and compass it should be suited), is termed a *part*, and in accordance with the number of such distinct successions which they comprise, compositions are said to be written in one or more parts.

An important distinction is made between *nominal* and *real* parts—the former term being applied to the duplication, in a higher or lower 8ve, of one or more of the independent parts of a

composition, frequently resorted to in concerted music of many parts for purposes of reinforcement or colouring (Art. 168), the latter to parts characterised by the individuality resulting from perfectly distinct and independent melodial progressions.

In this connection a composition is often spoken of as being written in so many *real* parts, nominal parts being then omitted. A familiar example of the employment of *nominal* parts is that afforded in the 8ve duplication, so common in music for the pianoforte.

171. The highest and the lowest parts of a composition are termed the *extreme*, those intermediate, the *inner* or *middle* parts.

The extreme parts, since characterised by possessing the greatest degree of contrast in point of the rate or pace of *vibration* of their constituent sounds, are easier of perception and discrimination—separate elimination, *i.e.*, from the entire harmonic mass—by the ear than the intermediate. Hence, the exceptions occasionally made to some of the rules of harmony apply far more frequently, and in the first instance, to the inner than to the extreme parts.

172. The collective notational exhibition of the several parts of a composition is termed a *score*. (See Appendix, *Score*.)

CHAPTER XVII.

Consonance and Dissonance.

THE difference in point of structure, and consequently of effect, between musical ratios, and hence intervals, as may be seen from a consideration of the Graduated Table, pp. 18, 19 (and the truth of the statement is even more thoroughly demonstrated by a consideration of the entire section (see Chap. I. § 5), constitutes, in reality, one rather of *degree* than of *kind*. Still, even within the comparatively limited range of relations recognised and employed in music, and although arranged in a delicately constituted sequence, as in the harmonic chord, the dissimilarity between

musical intervals is, in the case of the extremes, so strongly marked as to have prompted a twofold broad classification of these, which has received the endorsement, universally, of musical authorities.

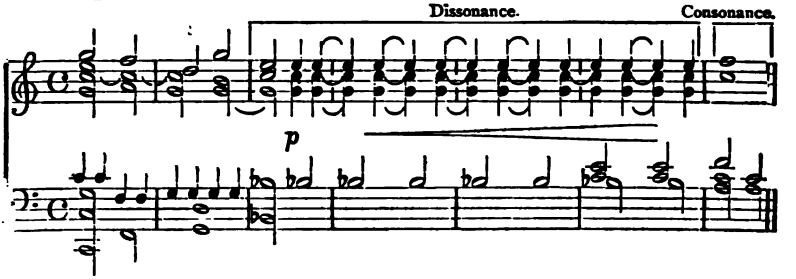
173. In addition to the several other modes of arrangement, the intervals of the scale are usually classified as being either (1) consonant or (2) dissonant. Consonant intervals are further divided into perfect and imperfect.

174. The consonant intervals are those resulting from the simpler ratios, the dissonant from the more complex. Of the former, the perfect consonances are the result of the simplest ratios of all.

The nature of the great tonal attributes, known respectively as consonance and dissonance, is best realised in connection with the simultaneous combination or harmony of sounds. Sounds then may be regarded for purposes of combination; and since succession, and especially quick succession, produces, in an approximate degree, the *effect* of combination, the classification applies likewise to *succession*—as either (1) consonant or (2) dissonant—the main property or distinguishing characteristic of consonance consisting in its capacity to afford to the ear (owing to its ease of perception and mental assessment) *repose*, of allowing the ear to dwell *satisfied* upon it; that of dissonance, in the absence therein (as a consequence of its power to *goad* or *provoke* the ear) of this capacity. Moreover, not only is dissonance unable to produce final repose; it possesses also a power of suggestion of unrest, as well as of invocation of something fresh (a reposeful solution or termination) to follow. Consonance and dissonance may be regarded then as the opposite poles of harmony, its static and its dynamic principles—the principles therein respectively of rest and of motion. Each is the *complement* also of the other, and demands suitable alternation therewith; for while, on the one hand, dissonance imperatively requires succession by consonance, and a composition constructed exclusively of dissonances would be intolerable, on the other, consonance affords the relief of repose which the ear craves, although a prolonged sequence of consonant combinations (*i.e.*, one where dissonances are at least not *implied*) is lifeless and vapid, and without the pungency and vitalising power that this attribute can alone infuse.

An illustration of the relative effect, produced respectively by consonant and by dissonant combinations, may be obtained by the performance of fig. 81, the unsatisfying, yearning character of dissonance being realised by the omission in the first few renderings of the *last* or *consonant bar*. The terminating and reposeful potentiality of the attribute of consonance may be verified by a repetition involving the *inclusion* of the last bar.

Fig. 81. BEETHOVEN.



As we have seen, the order amongst intervals of comparative consonance and dissonance is that of the comparative simplicity or complexity of their producing sound-ratios, as determined by the successive appearance of these latter in the harmonic chord, and coincides with that given in the Graduated Table (pp. 18, 19). It thus successively embraces (1) the perfect consonances, (2) the imperfect consonances, (3) the diatonic dissonances, and (4) the chromatic or extraneous dissonances.

Considered from the twofold point of view previously enunciated (Art. 168), the laws of harmony may be broadly classed as laws of (1) *combination* and (2) *progression*. Of these, the former deal more especially with the nature and the structure of the recognised musical combinations—the various *chords*, *i.e.* (Art. 177), the latter with the contextual disposition and progression of their component sounds—their mode of *succession*.

In order to an orderly and exhaustive treatment of the subject, the statement and the application must, it is plain, be exhibited of both the sets of laws above specified, in connection with the fundamental harmonic principles known respectively as consonance and dissonance.

It will be convenient, therefore, to present in order (1) the *general* laws of (successively) combination and progression, those,

viz., equally applicable to consonance and dissonance. (2) The *special* laws of respectively—

1. Consonant Combination.
2. ,, Progression.
3. Dissonant Combination.
4. ,, Progression.

CHAPTER XVIII.

General Laws of Combination.

175. THE musical sounds forming harmonic *combinations* are, like those which make up melodic successions, invariably selected from a scale. Harmony consists in the regulated combination of sounds of the scale.

The nature of the mutual relations occupied by musical sounds, which plays so important a part in the production of *melodic* effect, is rendered even more apparent in the case of *harmonic* combinations, the effect resulting from the nature of the relation existing between any *two* sounds—to take the simplest instance—being *intensified* as a consequence of the *simultaneous presentation* of such sounds. The ear is constrained by the twofold joint effect to an effort of comparison. Unshackled by the exercise of memory necessitated in assessing the relation of *successive melodic* tones, no impediment remains to prevent the due analysis of the *harmonic* effect.

176. The effect, then, of an harmonic combination (chord), like that of a melodic succession, depends mainly upon the nature of the relation of its constituent sounds, both (1) to the *tonic* or *root* of the scale of which they form part, and (2) to each other.

177. A combination of two or more sounds intended for simultaneous performance is termed a chord. (Arts. 175, 179.)

The constituent sounds of chords are, in all cases, obtained by selection from a scale.

178. The term concord is applied to combinations (chords) composed exclusively of *consonant* intervals. A combination comprising one or more *dissonant* intervals is termed a *discord.*

179. Any musical sound, subject in each instance to the conditions of progression to be subsequently enunciated (chaps. xix., xx., xxii.), may be combined with any other standing thereto in any of the ratios employed in music.

Any such combination of two or more sounds virtually constitutes a *chord* (Art. 177), although this term is usually restricted to denote the simultaneous conjunction of *three* sounds and upwards. Such simultaneous combination of three sounds is more strictly denominated a *triad*, but the term triad is ordinarily limited to signify the combination of a sound with its third and fifth, whether direct or inverted, and however distributed (chap. xviii. § 2).

Since (1) musical composition admits of being exhibited in either a greater or a less number of *parts* (Art. 170) than there are distinct scale sounds in even the largest and most varied *chord*, (2) each of such distinct sounds of a chord may be successively taken as the *lowest*, and (3) at any degree of absolute pitch, it follows that the process of chord formation is subject to conditions of

(1.) Position,
(2.) Distribution,
(3.) Duplication,
(4.) Omission;

each of these conditions being regulated by the principle dictating the formation and sequence of the harmonic chord—the nature, viz., of the sound-ratios involved.

§ 1. Position.

It is obvious that a chord may have any one of its constituent sounds as the lowest. The nature of its lowest sound determines the *position* of a chord.*

* For another mode of application of the term Position, see Art. 185.

180. The fundamental or generating sound of a chord, from which it is derived, and after which it is denominated, is termed its *root* (Art. 17). The root of a chord is the fundamental sound upon which such chord is built.

From this it will be seen that the lowest sound of a combination is not necessarily its root. The term *prime* is applied solely to the root or fundamental of an *harmonic* chord.

181. When the root is the lowest sound, the chord is said to be in *fundamental* or *direct position;* when, on the other hand, any of the remaining sounds of the combination takes the place of the root as lowest, it is said to be *inverted,* or in *inverted position.*

182. By the inversion of a chord is meant the substitution for its *root* of some other of its component sounds as the *lowest* of the combination—the root, if present, being transferred to an upper part. In figs. 92 and 93, the roots of the several chords are indicated by black notes.

A restriction for purposes of harmony to combinations in *fundamental* or *direct* position would, it is obvious, soon engender monotony, and thus greatly lessen the resources of the musical art. Hence recourse is had to the practice of inversion. In inversions the root is generally, although not invariably, present in one of the upper parts.

183. A chord admits, it is clear, of as many inversions as (with the exception of one) it possesses distinct scale sounds. (For instances of inversion, see figs. 92, 93, etc.)

§ 2. Distribution.

184. By the distribution (or spread) of a chord is meant the mode in which its component sounds are arranged relatively with the lowest.

In considering the question of the distribution of chords, as well as that of their formation generally, the essential character of the 8ve. relation must be borne in mind (see page 13).

An examination of the section of the harmonic chord exhibited in fig. 40, or of any sufficiently extensive section, will shew (1) that its constituent sounds are successively superposed by a *steadily decreasing* interval, and (2) that the law regulating this approximation of the several sounds is that of a somewhat unequal *bisection*—the lower half being in every instance the greater—of successive intervals. The larger intervals are found at the bottom of the chord, and each receives presentation, firstly, in an unmodified or naked form, and upon its second occurrence with the, roughly speaking, midway insertion between its extreme sounds or terms, of a *third* and (approximately) *bisecting* sound.

Thus, to take the first few intervals of the harmonic chord, we have successively presented as distinct intervals—

(1.) An 8ve. (C to C).
(2.) A perfect 5th (C–G).
(3.) A perfect 4th (G–C).
(4.) A major 3d (C–E).
(5.) A minor 3d (E–G).
(6.) A smaller or harmonic minor 3d, not theoretically recognised in music, but probably often attained in practice (G–B♭x) (6 : 7).
(7.) A large *harmonic* major 2d, not theoretically recognised in music, B♭x–C (6 : 7).
(8.) A large major 2d (major tone) (C–D) (8 : 9).
(9.) A smaller major 2d (minor tone) (D–E) (9 : 10).

a series of intervals steadily decreasing in magnitude.

Observe, too, how upon their second occurrence these successively receive (as having the lower half the greater) a somewhat unequal *bisection*, viz.—

(1.) The 8ve. into a 5th and a 4th by the 5th (G).
(2.) The 5th into a major and a minor 3d by the major 3d (E).
(3.) The 4th into a harmonic 3d and a large harmonic 2d by the harmonic 3d (B♭x).
(4.) The major 3d into a major and a minor tone by the major tone (D),

and so forth.

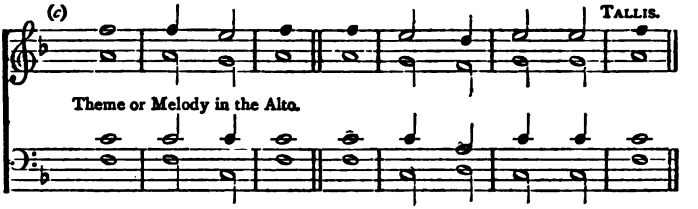
185. The law of the distribution of the sounds of the natural harmonic series is accepted as that to be ordinarily followed in the construction of a chord. Unless for the attainment of a special effect, or for purposes of variety, the sounds of a chord should be commonly separated by *nearly equal*, or rather by proportionately *decreasing* intervals, suitably to their relatively increased elevation in pitch, the *lowest sounds* being as a rule separated by the *largest intervals*.

It is obvious that a too exclusive adherence to this law would, by inducing monotony, frustrate the application of the principle upon which it is based, that, viz., of securing variety of ratio and hence interval, as well as of clearly separating the several parts. The principal object to be aimed at in the construction of a chord, especially when intended for separate instruments or for voices—and it is for voices to which for a very considerable period all essays in part-writing should be restricted—is that the parts should be *well* and *almost equally spread*, the lower sounds being as a rule separated by the larger intervals. Only exceptionally, and for the attainment of a necessary variety, should the lowest sounds be suffered to approximate by a smaller interval than the upper, seldom if ever at a cadence or point of rest. In all cases, too, should the resources and the effective capacity of the particular variety of voice or instrument employed be accepted as the paramount guide, the parts being kept, for a considerable period of musical training, well within the *medium* range of these.

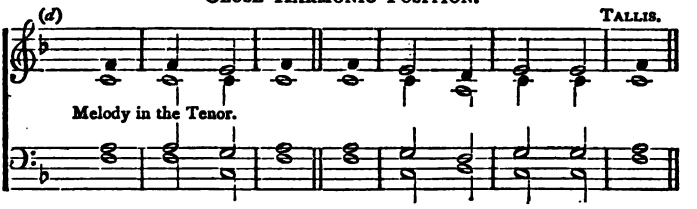
The distribution of a chord is sometimes spoken of as the way in which it is *spread*. A chord is said to be well or badly spread. Fig. 82 (*a*) (*b*) affords examples of respectively effective and ineffective distribution of parts.

The term *position*, too, is sometimes applied to the process of distribution, and, in accordance with the degree of divergence, or of approximation of the several sounds concerned in the formation of a chord, the distinction is drawn between *open* and *close* harmonic position. An example regulated in obedience to each of these modes, to which the law of distribution previously enunciated as based upon the constitution of the harmonic chord is equally applicable, is severally appended in fig. 82 (*c*) (*d*).

OPEN HARMONIC POSITION.



CLOSE HARMONIC POSITION.



It follows, from Art. 185, that a chord is, in general, best constituted when it consists of an admixture of large and small intervals. (*Cf.* Art. 197.)

§ 3. Duplication.

In the section of the harmonic chord, exhibited in fig. 40—and the same is true as applied to any larger or smaller section—the constituent sounds are found to receive octave duplication in proportion to the simplicity of their relation to the root. Thus, taking in the order of simplicity of ratio the successive harmonics available for musical purposes in the first four octaves, it is found that

(1.) The root itself virtually occurs five times, being repeated four times in the 8ve.

(2.) The perfect fifth to the root (3 : 2) virtually occurs three times, being repeated twice in the 8ve.

(3.) The major third to the root (5 : 4) virtually occurs twice, being repeated once in the 8ve.

(4.) The major second and the major seventh to the root, occur respectively but once.

186. Hence, as a general rule, and subject to the exigences of progression, the sounds of a chord should receive duplication (whether in the unison or the 8ve) in proportion to the simplicity of their relations severally to the root, those forming perfect consonance with the root of a combination being most susceptible of this process; next to these the *im*perfect, afterwards the *diatonic dissonances*, least of all the delicate, pungent, and incisive *chromatic* dissonances.

The principle, here deduced from observation and analysis of the harmonic chord, serves only to confirm and corroborate what we might most naturally have been led to expect, viz., that in proportion as the several ratios lose sameness and blending quality, and gain distinctiveness and individuality, do they admit of the pronounced and emphatic treatment resulting from duplication (whether this be effected in the unison or the 8ve).

187. (1.) It follows from (186), that the *leading* note of the scale, as pre-eminently characteristic in its power of suggestion of the tonic, should, as a rule, never be doubled.

An exception to this, common in the old writers, is sometimes found in the case of the diminished triad and in sequences.

188. (2.) A *dissonant* note, whether diatonic or chromatic, should not ordinarily receive duplication.

Fig. 83 affords instances severally of good and of bad duplication, the sounds of duplication being indicated by black notes.

Fig. 83.

NOTE.—The sound indicated by an asterisk is the 7th of the scale in which it occurs. (*Cf.* bar four.)

§ 4. Omission.

The *omission* of the sounds of a chord, rendered necessary either (1) by the limitation as to number of the parts of a musical passage, or (2) by the exigences of progression, must, it is clear, as constituting the converse of the foregoing, receive regulation by the same principle as does their duplication.

189. Hence ordinarily, and unless for the production of some special and exceptional effect—subject, moreover, to the exigences of progression—sounds should be *omitted* from a combination in proportion to their want of distinct individuality, such absence of individuality depending upon the degree of simplicity of their relation to the root.

Fig. 84 affords examples of respectively good and bad omission, the third from the root, as the most complex and hence characteristic interval of the several combinations, being at (*a*) properly retained, at (*b*) improperly omitted.

Fig. 84.

As previously intimated (Arts. 186, 189, &c.), the requirements of the laws regulating the *progression* of musical sounds, and of the

cardinal principle prescribing a suitable diversification, as essential in all fine art productions, necessitate not unfrequent departure from the general rules as to tonal combination above laid down. In all such cases, a suitable accommodation must be arrived at between the laws of combination and those of progression.

CHAPTER XIX.

General Laws of Progression.—§ 1. Species of Progression.

190. THE relative progression of the several parts of a musical composition is termed motion.

Such progression of parts must, it is obvious, be of two principal kinds. Either the parts must proceed (1) in *similar* or (2) in *opposite* directions. And if similarly they may (*a*) either rise or fall together (see lower stave of fig. 85 (*a*), (*b*)), or consist of a repetition of the same original combination (fig. 85 (*c*)); if dissimilarly, they may either (*c*) take opposite directions, one rising while the other falls, and *vice versâ* (compare the upper with the lower stave of fig. 85 (*a*)), or (*d*) the motion may be restricted to a single part, the other remaining, so far as pitch is concerned, stationary (compare the lower with the upper stave of fig. 85 (*b*)).

Fig. 85. (*a*) HANDEL.

(*b*) HANDEL.

191. There are two main species of progression, known respectively as, I., similar or direct, II., contrary or indirect motion. Each of these main species also comprehends two varieties.

192. I. Two or more parts moving in the *same* direction, either upwards or downwards by whatever extent of interval, are said to be in similar motion (fig. 85 (*a*) (*b*) lower staves).

The foregoing constitutes what may be designated similar motion proper. The case in which the same sounds of a combination receive exact repetition, is generally termed *parallel* motion (fig. 85 (*c*)), although this latter designation *has* been extended to denote any variety of similar motion.

193. II. Two parts moving in *opposite* directions, the one up and the other down, by whatever extent of interval, are said to be in contrary motion (compare the upper with the two lower parts in fig. 85 (*a*).

The foregoing constitutes what may be designated as contrary motion proper. There is, however, another variety of contrary motion, resulting from the retention or the repetition of the sound of one part, while the other moves independently either in an upward or a downward direction. This is termed *oblique* motion.

194. When one part moves either upwards or downwards, during the retention or the repetition by the other of one and the same sound, oblique motion is produced (compare the upper with the two lower parts in fig. 85 (*b*)).

195. For the purposes of progression, musical sounds may be regarded as either (1) conjunct or (2) disjunct. *Conjunct* sounds are those immediately adjacent in a scale; *disjunct*, those separated by other and different scale sounds.

196. Progression, or motion by *conjunct* intervals, is known as *conjunct* progression, or progression by *degrees*; that by *disiunct* intervals, as *disjunct* progression, or progression by *skip*.

Fig. 85 affords at (*a*) examples of conjunct, and at (*b*), as denoted by the asterisks, of *disjunct* progression.

The *possible* progression of a tonal succession is limited only by the compass of the entire absolute musical series. A *musical* progression, however (one that is constituting *music*), is further restricted by (1) its suitability in character and range to the particular medium (variety of voice or instrument) to be employed in its production. (2) Its constitution as made up of sounds occupying musical ratios, recognised as legitimate. (3) The application of certain special and general laws, of which latter the following are the most important.

Any combination of musical sounds may be succeeded by any other, in obedience to the following conditions.

§ 2. General Laws of Melodic Progression.

197. There should be a due admixture—in their succession—of large and of small intervals, with, except for purposes of special effect, a preponderance, perhaps, in general, of the latter.

Large intervals impart boldness, decision, and vigour; *small*, ease, grace, and smoothness of effect.

198. The succession in the same direction of two intervals of *exactly* the same ratio or dimension (quality) —as *e.g.* of two perfect fourths—is, in general, to be avoided, since resulting in poverty or baldness of effect.

A *large* skip in *one* direction is often most fittingly succeeded as productive of the greatest variety, by a *small* one in the *opposite* direction. It is well, too, in the case of a melodial progression by a *diminished* interval, to return to a note included within such interval, rather than to continue the progression in the same direction.

199. Use sparingly and exceptionally intervals of complicated ratio, and this in proportion to the degree of such complexity.

The instances of employment of exceptional intervals, most commonly encountered, are respectively those of (1) the arpeggio, (2) the melodic succession of sounds of one same chord, (3) the variable minor scale, (4) extended passing and auxiliary notes.

With the limitation of contiguous scale-sounds, in the case of the *voice*, intervals are difficult to *realise*, and hence generally—pre-eminently with the voice—to *deliver*, in proportion to the complexity of their producing ratios. The order of complexity is, of course, that of the appearance of the several ratios in the harmonic chord, as systematized in the selection therefrom, employed in music and embodied in the graduated table. (See table, p. 18, 19.)

In the case of the voice the difficulty, which is here in part mechanical, increases also, although in a subordinate degree, with the *magnitude* of the interval, using the term to express the degree of divergence of its component sounds in absolute pitch, this being the case even (should such divergence be exceptional) in the case of intervals of very simple ratio.

§ 3. General Laws of Harmonic Progression.

200. The immediate succession of two intervals of *exactly the same ratio*, and formed in each instance by the *same parts*, as *e.g.* (to take a simple case), of two perfect fifths, or of two 8ves, say between the treble and the bass, is in general forbidden. (Fig. 86 (i.)).

Fig. 86 (i.) is a chant by Purcell, in respectively the keys of C, E, G, and E♭ major, as a result of the superposition upon the original melody of, at (B), major thirds, (C), perfect fifths, and (D) minor thirds. The chant is given with the correct harmony of the composer at (ii.), an examination of which will show that, although

each successive combination comprises the interval of a perfect fifth, as denoted by the appended numerals, yet, with (*a*) the exception presented in bar five, and explained in (Art. 200 (2)), and (*b*) that resulting from the parallel motion (Art. 192), presented in bar six, and explained in Art. 200 (1), this interval does not occur, in any instance, consecutively between the *same* parts.

Fig. 86. (i.)

All deviations from this rule, which is regarded generally by musicians as of the greatest importance, must be looked upon as strictly exceptional. The most important of these will be found below. As to the principle upon which the rule is based, there has always existed a very great diversity of opinion. Its main justification is probably to be found in the consideration that it offends against the fundamental and essential characteristic of all fine art, that its productions should exhibit, as a first condition, a *unity in variety*.

A continuous and uninterrupted sequence of sounds occupying precisely the same ratio (as *e.g.*, 2 : 3 or 4 : 5), cannot but result in the copresentation of two scales, and this in proportion to the length of such sequence. It is clear, therefore, that the kind of sequence in question directly militates against the prime condition of the unity of a musical passage or composition, that its sounds shall, at any one stage, be exclusively derived from one and the same scale. (See this exemplified in fig. 86 (i.), where the distinct keys are severally indicated.) That a limitation of the succession of ratios of the intervals formed by any two parts to one variety, as, *e.g.*, 1 : 2 or 2 : 3, by the destruction of *individuality* of the parts, completely precludes the attainment of a desirable—in fact, of *any*—*diversification* is sufficiently obvious.

It is plain that the exceptions allowable to the cardinal rule, as to the consecution of precisely similar intervals, must be characterized by the presence of some counterbalancing element, calculated to correct the lack of cohesion evinced in the vagueness of tonality, or, worse than this, the simultaneous assertion of *two* tonalities, as

well as the monotony entailed by its infraction. We proceed to the consideration of the several intervals, in the order of their relative structural complexity.

(1.) (*a*) The repetition of the same chord, or section of a chord, exactly in the same position and at the same pitch, resulting from the use of parallel motion (fig. 85 (*c*)), does not, it is obvious, involve the violation of Art. 200 (see the three lower parts of fig. 86 (ii.), bar six).

Neither is the rule infringed by (*b*) the octave, or the unisonal duplication in a piece (for the purpose of giving the same increased prominence, or *colouring* as it were), of either

(1.) A phrase.
(2.) Any portion of a phrase.
(3.) Any, or even the whole, of the parts—common in music, for keyed instruments and for the orchestra.

The duplication by the addition of *nominal* parts (Art. 170), here alluded to, must, however, be carefully distinguished from the employment of consecutives between the *real* and independent parts of a piece themselves. (*c*) For purposes of effect, too, the whole of the parts may move in 8ves or in unison, as indicated by the direction, *tasto solo*, or (*d*) any of the parts may rest and the tonal progression, when necessary, be limited indefinitely, and at the discretion of the composer, to even a single part. It must, however, be steadily borne in mind that the bad effect of consecutives is by no means obviated by the insertion of a short rest.

(2.) Consecutive unisons, 8ves, and fifths (the perfect consonances) are occasionally tolerated, in following chords, in *contrary* motion. In this exceptional use which should be, for a considerable period, avoided by the student, the baldness and vagueness of effect are thought to be, to some extent, obviated by the variety of *motion*. (Fig. 86 (ii.)).

Fig. 86. (ii.) PURCELL.

(3.) In a combination of *many* parts (as, *e.g.*, in orchestral or organ music) use is sometimes made consecutively of the perfect consonances, with the exception of fifths between the extreme parts, the object being in this employment to attain a fulness and massiveness of effect, by the use of a succession of combinations—each characterized by a mode of distribution based upon that presented in the harmonic chord—rather than an individuality in texture and character of a limited number of melodies or parts. The same remark applies, too, in a limited degree to vocal composition in a large number of parts.

(4.) Consecutive 8ves and perfect fifths have also sometimes been used, the former by *contrary*, the latter by both contrary and *similar* motion, even by the great masters in a passage between the characteristic chords of the tonic and the dominant, or of the tonic and the subdominant of the scale, and in other key-determining combinations, the fixity of the key being, in these cases, sufficiently guaranteed by the nature of the progression. Such modes of employment as this last, although justified by the occasional practice of the great masters, must be resorted to with the utmost caution, and regarded as quite exceptional. They should be rigidly eschewed in the early stages of study.

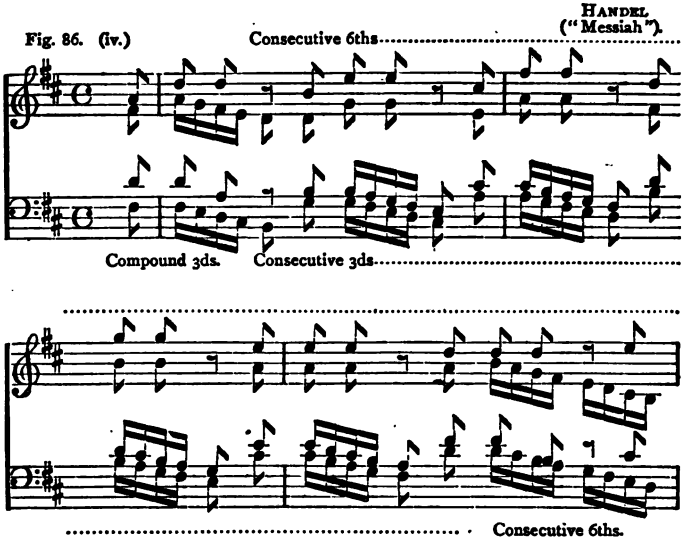
(5.) The stringency of the rule, with regard to the consecutive presentation of the interval of the perfect fifth in its *direct* form, does not obtain, in the case of its *inversion*, the perfect *fourth*. Except in the instance of strict counterpoint, two or even more consecutive fourths are, in compositions of four or more parts, permissible, although their reiterated use should be avoided; and a succession of these intervals, with the addition of lower thirds, in scale order, and constituting a progressive chain of chords of the sixth (Art. 219), forms one of the commonest (yet most effective and beautiful) of harmonic devices. (Fig. 86 (iii.)).

Fig. 86. (iii.) Sequence of 6ths. MENDELSSOHN ("Elijah").

The explanation of the latitude permissible in the use of this interval, consists probably—as in the case of the imperfectly consonant intervals, the thirds and sixths—in the constituent terms

of its producing ratio, being in a degree more dissimilar, and hence the interval itself more distinctly an element of diversification and consequent interest, than is the case with the direct and more monotonous form of perfect fifth.

(6.) Consecutive thirds and sixths, when belonging to one and the same scale, and hence in the majority of instances of varying structural ratio and resulting *quality*, as respectively major and minor, so far from being forbidden, are, as productive alike of unity and of variety, of most frequent employment (fig. 86 (iv.)). Although, however, a preponderance may in general be admitted of imperfectly consonant intervals, still in order to prevent the cloying and trivially monotonous effect engendered by their exclusive employment—and thus for necessary purposes of variety—due interspersion should be made of the *perfect* consonances.



(7.) Consecutive thirds (and hence sixths) when of precisely the *same* quality, as either all major or all minor, are generally to be avoided, as, with the exceptions contained in the scale, asserting in an aggravated degree, commensurate with the increased diversification of their producing ratio, the presence of more than a single scale. (Fig. 86 (i.)).

201. As involving, if the understood progressions were actually filled up, the presentation of consecutive fifths or 8ves; what are termed *covered* or *hidden* (i.e., *suggested*) consecutives are, as far as possible—especially in the strict style, where individuality of parts is paramount, and the *suggestion* even of anything calculated in any degree to militate against this inadmissible—to be avoided.

202. Any progression of parts, successive component notes of one or both of which are separated by a disjunct interval, if necessitating, should such disjunct interval or intervals be filled up, consecutive fifths, or 8ves, contains hidden consecutives. (Fig. 87 (i.)).

Fig. 87. (i.)

(ii.)

Obviated by contrary motion.

It is clear from fig. 87 (i.) that although the consecutives are not actually present, they are at all events strongly *suggested* to the mind.

203. A little consideration will show the most effectual preventive of hidden consecutives, to be comprised in the rule that no *perfect* consonance should be approached by *similar* motion (see fig. 87 (ii.)).

Fig. 87. (iii.)

An exception to this rule, whose observance, however, is to be striven for in the extreme parts, consists (1), in the case of the 8ve,

in the progression (the upper part moving conjunctly) from the chord of the dominant to that of the tonic (fig. 87 (iii.) (*a*)), the chord of the tonic to that of the subdominant (*b*), and generally between any two chords moving by conjunct progression in the upper parts, and whose basses succeed each other disjunctly by the skip of a fourth (*c*). (2) In the case of the fifth, in the progression (the upper part moving conjunctly) from the chord of the tonic to that of the dominant (*d*), the chord of the subdominant to that of the tonic (*e*), and generally between any two chords, moving by conjunct progression in the upper parts, and the basses of which (*f*) succeed each other disjunctly by the skip of a fifth. (3) In the passage to the fifth in the same harmony (fig. 87 (*g*)). (4) As approximating closely in magnitude to the perfect interval, the *imperfect* fifth, although of entirely distinct character and ratio, should be employed in direct succession thereto, only exceptionally in the extreme parts. (See fig. 87 (*h*).)

Departures made from the rule laid down in Art. 203—and the rule, be it remembered, applies not only in the case of consonant, but receives an extended application in that also of dissonant combinations (*cf.* the progressions in fig. 87 (*i*) (*j*))—as to hidden consecutives, should be such as are sanctioned by the general practice of the great masters.

204. The consecution of the dissonant intervals of second, seventh, and ninth, or compound second, is precluded by the progression special to such combinations (chap. xxii.)

205. A sound dissonant with another of the same combination, must ultimately (as a rule, immediately) proceed to one *consonant* therewith, and this either itself or (at least, and this most exceptionally) in the form of one of its 8ves. Such progression of a dissonant to a consonant sound, is termed its *resolution.* (See Art. 174.)

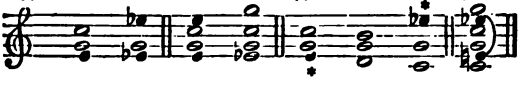
206. The resolution of a dissonance should normally be effected in the *same part,* and by the least possible progression of interval, such progression, moreover, being

not only in character *conjunct*, but taking, in by far the greater number of instances, if not *immediately*, at all events *ultimately*, a *downward* direction.

In some cases, however, dissonances are resolved *upwards*, although the *descent* of the dissonating tone would seem, from its more general, in fact, almost universal employment, to be more natural and appropriate, and thus by its suitability for the clear presentation of the characteristic effect known as *resolution*, to afford more of satisfaction to the ear.

207. The immediate succession of (in one combination) a sound in its normal, uninflected or natural condition, by (in another) the same *chromatically* inflected (or, more correctly speaking, by a sound forming with the original the interval of a chromatic semitone (24 : 25)), and indicated of course by means of a modifying accidental, should take place, as a rule, in one and the same part (fig. 88 (*a*)), except when the inflected note is *doubled*, in which case the note of duplication may take a different progression to avoid consecutive 8ves (fig. 88 (*b*). The neglect of this rule, even when there is inserted an intermediate chord, as at fig. 88 (*c*), produces what is known as a *false relation*. A false relation is also effected when a sound and its chromatic semitone are simultaneously *combined* in one and the same chord, as at (*d*).

Fig. 88. (*a*)



Certain licences or exceptions, however, occur in the case of chromatic progressions, concerning which no more absolute guide can be furnished than that afforded in the observation of the works of the great masters.

The main reason for the prohibition of the use of the false relation seems to be found in the fact that such an effect—as its name indeed implies—necessitates a degree of confusion as to the *species*, or the *mode* of the *scale* in which the progression, containing such false relation, is cast. It militates, in general, against the preservation of the *unity* of such scale. Hence cases, in which no such sense of confusion is induced, do not constitute infringements of the rule.

208. There should be, throughout the course of a musical passage, a due interspersion of consonant combinations in their *inverted*, with the same in their *direct*, forms, as also of *consonant* with *dissonant* combinations.

Care should be taken also, generally, to secure a due diversification in the mode of *distribution* of the several chords constituting an harmonic progression, and hence to ensure variety of relation (and consequently of interval) between immediately *contiguous* parts.

209. Avoid the exclusive use of *similar* motion—save for the exceptional purposes of special effect—in *all* the parts. A suitable admixture should be aimed at of all the varieties of progression, preponderance being, in general, assigned to the variety known as *contrary* motion.

Contrary motion presents the most effectual means for the avoidance of faulty progressions (Arts. 202, 203), and of securing a distinct individuality and conversational or dramatic interest (Art. 201) to the parts.

A forcible illustration of the utility of contrary motion to prevent consecutives is afforded in the exceptional radical progression between two chords having for their roots *conjunct* scale sounds. Fig. 88 presents at (*e*) examples of the gross errors resulting from an absence of the use of this species of progression; at (*f*) the

correction of the same by means of its employment. (*Cf.* Art. 217, and fig. 91 (*d*).)

Consec. 5ths. and 8ves. Obviated.

It follows from the nature of the constitution of good melody, as resulting in general from an appropriate fusion of the various species of tonal progression, whether such progression be considered, either with regard to its *direction* as respectively similar, parallel, contrary, or oblique, or with regard to its *magnitude*, as conjunct or disjunct, that a well-ordered succession of combinations commonly necessitates (1) the simultaneous presentation of intervals of different dimensions in individual chords; and (2) the more or less alternated employment of the various species of progression—from chord to chord—in each constituent single part.

(1) What has been previously advanced (Art. 197) as to the desirability, and even necessity of a fitting admixture of intervals of different magnitude as conducive to the attainment of a characteristic diversification, applies with equal force to tonal *combinations* as to *successions*.

Normally, a chord is best constituted when compounded of intervals involving a considerable difference in dimension.

(2) As at once permitting variety, and constituting a powerful bond of unity, the use of oblique motion, resulting from the retention or the repetition in the same parts of sounds *common* to successive combinations, should be steadily striven for by the student, especially in a first course of study.

It may be laid down as a general principle that two chords are best connected—excepting when the acquisition of a necessary diversification by the attainment of a special effect of separation, vigour or boldness is required—by the continuous prolongation (or the repetition) of their common sounds in the same parts. Should the process of *linking*, effected by such employment of a common sound, be unattainable, combinations are, as a rule, more or less closely and smoothly connected in proportion to the *magnitude* of their joining intervals, conjunct being more binding or

welding in its effect than disjunct progression. An important application of this principle is found in the case of the process known as *resolution*. (Art. 205.) (See also Art. 217.)

The utility of the rules, enunciated in Arts. 208, 209, as conducive to variety of effect, is apparent.

210. Every composition—as a rule—*begins*, and *invariably ends*, with a consonant combination (a common chord, *i.e.*) in its *direct* form. In cases where the initial chord of a piece or movement is in character *dissonant*, it is a characteristic of modern music, that the principal or reigning key should ordinarily receive a clear and definite establishment and confirmation by the presentation of its consonant *tonic* harmony upon the first or strong accent of the first measure.

An observance of this rule is essential to the attainment of the unity that should characterise a piece of music, and of the finality which should mark its close.

The fact should in no case be lost sight of by the student, that, in order to constitute music, (1) a mutual accommodation must be effected in a passage between the laws of respectively tonal combination and tonal progression; and (2) that the ability to order musical successions, in all cases aright,—depending as this in a very great measure does upon the acquisition and the exercise of a cultivated taste—is only to be gained by, in addition to the mere observance of rules, the diligent observation, analysis, and study of the works of the great masters.

CHAPTER XX.

Laws of Consonant Combination and Progression.

§ 1. The Common Chord.

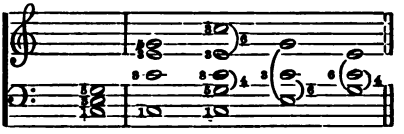
211. ANY sound of a diatonic scale, whether, too, this formula be arranged in its *major* or its *minor* mode, may be combined with any other sound of the same scale that is consonant therewith; either, *i.e.*, its 8ve, its perfect fifth

or the inversion of this, perfect fourth, its major or its minor third, or the respective inversions of these, its minor or its major sixth.

212. The whole of the above results are included in what is known, from its constitution as the universally recurring and only accepted type and material of consonance, as the *common* chord, which, in its simplest form of *triad* (Art. 179), and omitting 8ves (as practically involving merely strengthening and confirming *repetitions*), consists of a sound combined with its third and its fifth.

The term *triad* although sometimes restricted, as above, to denote a common chord, presented in its simplest and most limited form, as constituted of only three distinct sounds (the appellation common chord being then confined to consonant combinations of at least *four* parts) is, nevertheless, sometimes very generally applied to designate a common chord in *any* number of parts.

Fig. 89.



It is evident, from fig. 89, that by a different *distribution* of the parts, the intervals (1 : 3 : 5) of a triad may receive presentation in the inverted form (8 : 6 : 4 respectively), thus demonstrating the mode in which *all* the consonant combinations are included within the common chord.

213. A triad or common chord may be formed upon any sound of the scale as a *root* or *fundamental*, except the seventh. (Fig. 90.)

214. The lowest note of a common (and indeed of *any*) chord, in direct or fundamental position, like that of the formula of which this combination constitutes the nucleus

and initial section, the *harmonic* chord, is termed its *root* or fundamental bass. (Art. 180.)

An examination of fig. 90, which exhibits triads upon the seven successive sounds of a scale, reveals also a difference in respect of the order of the *ratios* of their component sounds, and hence of the *quality* of the resulting intervals, since, although six of the triads include respectively a perfect fifth, which embraces, in each case, a major, together with a minor, third, the order of the superposition of such thirds is not *uniform;* for, in three instances, it is the *major* that is the lower, in the remaining three the *minor.* A still greater difference is observable in the triad built upon the seventh sound of the scale, the extreme terms (sounds) of which, as occupying the dissonant ratio of (45 : 64), and forming an *imperfect* fifth, preclude its classification as a consonant combination. The combination in question is commonly known, from its interval of fifth, as the *imperfect, dissonant,* or *diminished* triad.

215. A common chord is termed major or minor, according as its interval of lower third, reckoning from the root, is respectively major or minor.

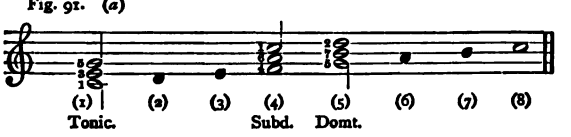
Fig. 90.

The several species of triad are discriminated, in fig. 90, by the use of, in each case, a different note form.

216. Of the triads of the major scale, three—those, viz., formed upon its first, fourth, and fifth sounds—are *major,* and three—those, viz., upon its second, third, and sixth sounds—minor.

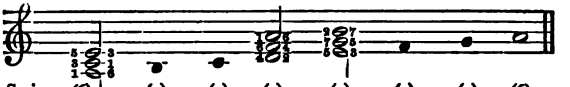
THE MAJOR MODE.

Fig. 91. (*a*)



THE MINOR MODE.

(*b*)



Major Series.	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)
Minor Series.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Tonic.			Subd.	Domt.			

The major triads of a scale, those based, *i.e.*, upon its first, fourth, and fifth sounds, comprise all the sounds exclusively of such scale (fig. 91 (*a*)), together with a confirmatory repetition of the important tonic (1) and dominant (5). Hence the most effective and decisive method of establishing the key, in which any passage is cast, by the use solely of *consonant* combinations, consists in the more or less reiterated presentation of these triads.* See fig. 91 (*a*), in which the repeated principal sounds (denoted as minims) of the scale, taken in its *major* mode, and the inclusion within the three triads, of *all* the scale sounds (denoted by numerals), are severally indicated.

Since the sounds 6, 2, and 3 of the scale, taken in the order known as its *major* mode, constitute respectively 1, 4, and 5 of the same scale, arranged in its *minor* mode—*i.e.*, of its usually termed *relative minor*—it follows that the remaining or *minor* triads of the scale (those, viz., built upon the sounds in question, 2, 3, 6) comprise all the sounds of such scale, taken in its minor mode, with a repetition, moreover, of the minor tonic and dominant, and are similarly related thereto, and as effectual in its establishment (with chromatic modification, by way of *elevation*, of the chord of the dominant) as the corresponding sounds, 1, 4, and 5, were seen to be in the case of the relative *major* series.

See fig. 91 (*b*), in which the repeated principal sounds (denoted as minims) of the scale, taken in its *minor* mode, and the inclusion within the three triads of *all* the scale sounds (denoted by numerals), are severally indicated.

The modification of the chord of the dominant of the minor mode (that on note three of the major series) alluded to in the preceding section, consists in its frequent conversion—always at a point of rest (cadence), or where the leading-note (its third) rises to the tonic of the mode—from a minor into a *major* chord by the rejection

* A familiar practical exemplification of this is afforded in the *preluding*, often resorted to before a musical performance, mainly for the purpose of establishing the principal key of the piece.

of its third sound (sound *seven* of the minor mode, and occupying with the tonic the ratio (5 : 9)), for one a semitone *higher* and forming a true *leading*-note, with ratio (8 : 15). It is plain that such a modification cannot but tend towards the more effectual fixation of the minor, as distinct from the major series. (Art. 40.)

As a result of the modification of its dominant chord, the minor mode is seen (fig. 91 (*c*)) to possess a greater variety of triads than does the major.

Fig. 91. (*c*)

Thus of the legitimate triads of the minor scale, exhibited in fig. 91 (*c*), four are major, three minor, and two, as comprising the imperfect fifth, dissonant. (See Art. 214.)

For the full exhibition of a triad, it is necessary that a composition should consist of three distinct or *real* parts. It is plain, then, that in consonant combinations of more than three parts, some one or more of the sounds of a triad must be *repeated* (*doubled* as it is termed) (Art. 186), while in those of less than this number of parts, some one or more must be *rejected* or omitted (Art. 189). Often, too, the omission or duplication of some particular sound of the harmony is necessitated, or rendered expedient, by the exigences of progression. (Art. 210 (1).)

The sounds of the harmonic chord are seen to receive duplication in proportion to the order of their first entry thereinto, or, which is the same thing, that of the simplicity of their several ratios with the root, the reason being—as before advanced (Art. 186)—that the sounds of simpler ratio, since possessing the greatest capacity for blending into one whole, impose no exceptional strain upon the perceptive faculties, and serve but to increase the unity and coherence of the combination, while the ratios of greater complication, exercising as they do a constraint upon the mental attention, at once make themselves felt by the ear. (Art. 50.)

217. Hence, as a general rule, it is better to double the 8ve to the root than the fifth, and the fifth than the third. And, again, it is better to omit the 8ve to the *root* than the fifth, and the fifth than the third. (See figs. 83, 84.)

As previously intimated, this, like the majority of rules, must be followed with discrimination. Thus it is often found necessary to omit the fifth in favour of the 8ve, in order either to avoid consecutives and other faulty progressions, to gain variety, or the more effectually to increase the sense of unity by establishing, in the reinforcement of its characteristic or chief sound, the tonality of key. For this purpose, and for that of thoroughly impressing the abnormal and peculiar character of the mode of the lesser third, an exception to the doubling of the third is found in the case of a minor chord. Fig. 92 (*a*). The *major* third, however, is *rarely* doubled, *never* when, as in the case of the triad, on the dominant, it constitutes a *leading*-note (Art. 187, and fig. 83), since, in this case, the complex nature of its ratio with the tonic, unmistakeably renders it sufficiently conspicuous as pre-eminently *la note sensible*, the sensitive note. The importance of the non-omission of the third (the omission being common, however, in the old writers), is further exhibited in the vagueness of mode which would otherwise result, the imperfect consonances constituting pre-eminently the intervals of *mode*. (See Art. 215.)

A not uncommon instance of duplication of the major third, is that effected in the minor mode for the purpose of avoiding the exceptionally difficult melodic progression presented by the interval of the augmented second, and resulting from the sequence of the unaltered sixth and the elevated seventh of the mode in question. (Fig. 92 (*b*).) (Art. 41 (2).)

From a consideration of fig. 91 (*d*), which exhibits the appropriate succession of a single triad by those respectively based upon roots removed from its own, by the several scale intervals, the following rules, useful as a guide in the conduct not only of *radical* but also of *inverted* progressions, may be deduced.

(1.) The upper parts should, as a rule, proceed by the smallest progression of interval, common notes wherever available being retained.

(2.) Triads whose roots form the interval of either an *ascending* second, third, or fifth, or the respective inversions of these, a descending seventh, sixth, or fourth, should generally succeed one another—for the avoidance of consecutives—by *contrary* motion.

(3.) Triads whose roots form the interval of either an *ascending* fourth, sixth, or seventh, or the respective inversions of these, a descending fifth, third, or second—these intervals constituting, with respect to their

direction, the converse of those severally specified in (2)—may succeed one another by *similar* motion.

(4.) The leading-note of the scale, when followed by a chord containing this, should generally proceed to the tonic or key-note in the same part. Excepting, however, in a full close, the seventh of the key is not invariably restricted in its progression to the tonic, even should this be present, but it should, whenever practicable, *rise*.

The student should notice the mode and the degree of *linking* or *binding* effected by the employment in successive chords of one or more *common* notes, and indicated in fig. 91 (*d*) by corresponding slurs. In bars two and five are found instances of *double* binding. It will be seen from the figure that owing to the absence therein of common sounds, the succession of two triads upon conjunct degrees of the scale stands out alone. The use of the progression in question is therefore exceptional, and for the purpose of securing the diversification involved in the production of an effect of boldness, disruption, and independence (Art. 209 (2)).

It should be remarked, moreover, that the motive power and necessary tendency to consonance exercised by the succession, in *melody*, of conjunct scale tones (Art. 20)—tones, viz., mutually occupying dissonant ratios with some one of their number—receive *intensification* as a consequence of their presentation in the form of *harmony*—when such tones, *i.e.*, are *combined* in the same chord. Chords, then, which comprise tones occupying a dissonant ratio with those (and pre-eminently with the *root*) of an *immediately contiguous* chord, exercise a dynamic power in direct proportion to the number and nature of such dissonating tones.

See this exemplified in the successive bars of fig. 91 (*d*), from which it will be seen that the respective consonant successions, comprised of the *tonic*, followed by the several *other* triads of the scale (and the same is true as applied *generally* in the case of successive consonant combinations), are characterised by *connecting* or *binding*, and by moving powers in various degrees; a fact more clearly discernible from the following table (fig. 91 (*e*)). The moving power possessed—as a result of its inclusion of tones dissonating with the *tonic*—by the combination upon the *dominant* (*cf.* Art. 229) and generally by that upon an *upper fifth*, should be particularly remarked.

Fig. 91. (*e*)

Interval between Triad Roots.	2d.	3d.	4th.	5th.	6th.	7th.
Scale Triads.	Ton. Sup.	Ton. Med.	Ton. Sub.	Ton. Dom.	Ton. Subm.	Ton. leading Note.
Number of Common Sounds.	0	2	1	1	2	0
Number of Sounds Dissonant with *Root* of adjacent Chord.	1	1	0	2	0	2
Number of Sounds Dissonant with *others* of adjacent Chord.	3	0	2	1	1	2

Since *dissonance* constitutes the great dynamic force or moving principle in harmonic combinations, it follows that chords exercise, in general, a motive power directly proportionate to the *degree* of such dissonance. Hence a *minor* chord is more potently suggestive of onward movement than a *major*, and a chord in *inverted* than one in direct position; a fact serving to explain the comparative frequency of employment of concords, generally, of the normal scale, as being regulated by, conversely, their inherent *statical* power or degree of *consonance*,—*major* chords being of more frequent occurrence than *minor*, *direct* than *inverted*,—the more or less extended use of the inverted depending directly upon the *order* of inversion, beginning with the *major* and reaching a minimum of almost entire disuse in the case of the minor second inversions of the subordinate chords, and the former in their *direct* positions as pre-eminently constituting types of unity and rest,

and as pre-eminently conducive to the satisfaction and repose of ear and mind, being the most frequently employed of all.

Fig. 92. (*a*) MAJOR. MINOR.

NOTE.—The several instances of duplication of the third in Fig. 92 (*a*) (*b*), are denoted by asterisks, those afforded in the supertonic triads exhibited in bars one and four of the figure constituting the forms of this chord most commonly employed.

For an explanation of the numerals appended to the foregoing and other figures, the student is referred to the Appendix upon figured bass, the several sections of which should be studied in the order therein indicated.

§ 2. Inversions of the Common Chord.

218. A common chord consisting of, in addition to the root, two distinct sounds, two inversions (Art. 182, 183), of this combination are possible, viz., (1) that in which the third from the root takes the place of this latter as lowest sound, fig. 93 (*a*) (*c*); and (2) that in which the fifth from the root so takes its place. (Fig. 93 (*b*) (*d*).)

219. The first inversion of the triad is often termed the chord of the sixth, the second the chord of the sixth and fourth (or the $\frac{6}{4}$).

Fig. 93 affords example of these several combinations, at (*a*) (*c*) in the major, and at (*b*) (*d*) in the relative minor mode.

These designations are derived from the intervals formed by the respective substituted basses, with the remaining sounds of the several combinations, as exhibited in the system of thorough or figured bass. (See Appendix, figured bass.)

The general rules before given as to duplication, omission (Art. 217), inversion (Art. 182, 183), and distribution (Art. 184, 185) of combined sounds, in general, together with those of

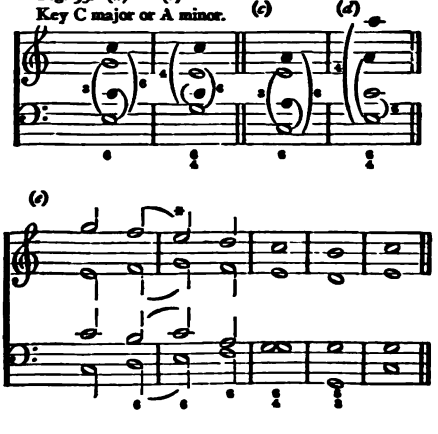
progression (chap. xix.), govern the employment of the common chord, whether in its direct or its inverted positions.

It must be carefully borne in mind, however, that the rules for doubling and for omission—which, moreover, are invariably subject to modification dictated by the exigences of progression—should be applied to the fundamental *roots* in the case of *inverted* chords, and not to the new basses, or lowest sounds created by the inversions. Thus, to take a simple instance, it is the 8ve to the *root* (the sixth, *i.e.*, to the new bass), (fig. 93 (*a*) (*c*)), and not the 8ve to the new bass itself, that should ordinarily receive duplication in the chord of the sixth, and so with the rest. An illustration of the application of Art. 217, as to doubling, &c., in the case of the two inversions of the triad, is afforded in fig. 93, where the sounds duplicated are indicated by black notes.

Since, very open to discrimination by the ear by reason of its constitution as an *extreme* part (Art. 171), the bass (*i.e.*, third to the root) in the first inversion of a common chord should not, save very exceptionally, when major, be doubled unless the interval and its duplication be both approached and quitted conjunctly, and by contrary motion, fig. 93 (*e*). As conducive to the attainment of a contextual progression involving *common* or *binding* notes, duplication is commonly extended—especially in its most frequent, viz., its *cadential* employments—to the *bass* in the second inversion of the triad (Art. 221).

See examples, fig. 93 (*k*) to (*q*).

Fig. 93. (*a*) (*b*) (*c*) (*d*)
Key C major or A minor.



220. Any note of the scale may bear a chord of the sixth.

The first inversions most commonly used, are, taking these in order of frequency, those of the triads of respectively the tonic, dominant, and subdominant of the scale. (Fig. 93 (*g*) (*h*) (*i*).) In the minor scale the unaltered seventh in descending is commonly accompanied by a chord of the sixth.

A triad, in its *direct*, may be either preceded or followed, upon the same bass, by one in its *first inverted* position. (Fig. 93 (*j*).)

In a succession of chords of the sixth in four parts, to prevent consecutives and secure regularity of design, the duplication should be applied to, alternately, the sixth and either the 8ve or the third to the bass note; this operation necessitating, whenever the *unison* is doubled, a corresponding diminution in the number of the parts. (Fig. 93 (*f*).)

The sequence of sixths is most commonly and effectively employed rather in detached portions than as an entire whole, the characteristic interval of sixth being found for the avoidance of consecutives between the extreme parts. This last condition, however, is not binding in a succession involving the consecution of a perfect with an *im*perfect fifth (Art. 203 (4)).

In fig. 93 (*f*) the alternate duplication of the several intervals is indicated by the numerals appended to the tenor part, the intervals being reckoned in each instance from the *root* of the combination, and not from the inverted or substituted bass.

221. The triads, whose second inversions are of most frequent recurrence, are severally those of the three principal scale sounds, viz., the tonic, dominant, and subdominant. The combinations in question, therefore, are found respectively upon the dominant, the supertonic, and the tonic of the scale. (Fig. 93 (*k*) (*l*) (*m*).)

As, probably from (1) its being found upon—in the prominent extreme bass part (Art. 171)—the suggestive *dominant* of the triad whence it is derived, and (2) comprising the neutral non-distinctive interval of a fourth with the same part, constituting the vaguest, most suggestive, and least reposeful and final form of consonance, the $\frac{6}{4}$ should be employed with restriction, and not at the *extremities* of a musical passage. It is most generally found as either

(1) The penultimate chord in a half close upon the dominant. (Fig. 93 (*n*).) (See *Cadence.*)

(2) The antepenultimate chord (preceding that of the dominant) in a full or other close upon the tonic. (Fig. 92 (*a*) (*b*), and 93 (*e*).)

222. The following are the main conditions regulating the employment of the second inversion of the triad.

(1) It should be preceded and followed (*a*) by a chord upon its own bass note or the 8ve of this (fig. 92 (*a*) (*b*) 93 (*n*), or (*b*) by another position of the same harmony (of the triad, that is from which it is derived) (fig. 93 (*p*). (*c*) Conjunctly by a chord upon a proximate bass note. (Fig. 92 (*a*) (*b*) 93 (*n*) (*o*).)

The $\frac{6}{4}$ upon the supertonic is commonly preceded and followed conjunctly by tonic harmony. (Fig. 93 (*o*).)

(2) If approached disjunctly from the bass it should be preceded by none but a chord in *direct* or *fundamental* position. (Fig. 93 (*q*).) (*Cf.* fig. 92.)

(3) The $\frac{6}{4}$ is very seldom reached by similar motion in all the parts (Art. 209). In all cases, except, perhaps, that specified in (1) (*b*) contrary motion, at all events in *one* of the parts, or at the least *oblique* motion should be sought after. (See fig. 93 (*p*).) This condition is especially binding in the case specified in (2).

223. The due interspersion of fundamental with inverted, and of major with minor scale chords (Art. 208), contributes in no small degree to the acquisition of that great artistic essential, unity in variety, and hence forms a characteristic of all musical composition worthy of the name.

It will be seen that the foregoing, taken in connection with Art. 216, lays down a general rule for the attainment of a suitable succession of combinations in the harmonisation of a given subject or passage. It prescribes the preponderance in employment—for the purpose of securing unity by the establishment of this—of the three principal chords of the key (whether major or minor, according to the mode selected), and the attainment of the necessary relief and diversification by the judicious and subordinate introduction of the three *other* chords of *opposite* modal constitution, both sets of combinations—the principal and the subordinate—being suitably interspersed as direct and inverted. (Art. 217.)

In this connection an observation should be extended to the structure of the *subordinate* considered in relation to that of the several *principal* scale triads. From an examination of fig. 91 (*d*) it will be seen that the several subordinate triads upon respectively the submediant, mediant, and supertonic of the scale, are, as possessing double bonds of connection therewith (and hence differing therefrom in but a single sound), intimately related to, in fact, almost identical with, the triads upon severally its tonic, dominant, and subdominant, each to each. It follows, as an inevitable consequence of this closeness of relation, that the individual triads constituting the several pairs in question are for the purpose of securing a diversified unity in harmonisation, very extensively treated as interchangeable, the one for the other.

Fig. 93 (*r*) exhibits the nature of the relation existing between the several triads under consideration.

Fig. 93. (*r*)

Of the subordinate triads employed for purposes of diversification, that upon the third of the scale in its major mode, indicated

in fig. 90 by a difference of type, occurs, perhaps, least frequently. The elevated sixth in the minor mode is never taken as the root of a chord, since such an employment would strongly interfere with the preservation of the unity of the original scale.

The student should verify the preceding statements by the analysis—with a view to this—of a variety of compositions in plain counterpoint (psalm tunes *e.g.*) by writers of repute.

CHAPTER XXI.

Laws of Dissonant Combination.

AT the present stage, and in connection with the laws of combination, it will be found convenient to consider in order the several species of dissonance commonly recognised.

224. In accordance with its tonal constitution, dissonance admits of a threefold primary classification, as either (1) essential, primary, or fundamental (§ 1), (2) secondary or non-fundamental (§ 2), (3) alterative (§ 3).

The first two varieties include the diatonic, the third or last, among other forms, those known as the chromatic dissonances.

225. By *diatonic* dissonance is signified dissonance resulting from the conjunction of, exclusively, sounds of a diatonic scale; by *chromatic*, that involving the presence, in a combination, of one or more chromatic sounds.

Combinations constituted in obedience to the several conditions described in Art. 225 are correspondingly termed diatonic or chromatic *discords*.

226. Diatonic discords are either fundamental or secondary. By fundamental discords are understood those which, from their being constituted of *characteristic*

scale sounds, serve unmistakeably to establish and confirm the scale, and whose employment is, in the modern view, considered essential to the attainment of this. Secondary discords include all other recognised as legitimate dissonant chords possible of evolution by the conjunction of sounds of a diatonic scale.

It is a characteristic of secondary discords that they do *not* serve unmistakeably to establish and confirm a single scale, their constituent sounds being common to at least, in every instance, *two* distinct scales.

227. Alterative dissonance, or dissonance by alteration, results from the introduction into a chord, by way of substitution, of *extraneous* and *foreign* (of other than its *integral* or *essential*) sounds. It includes the varieties known respectively as (1) chromatic dissonance, (2) dissonance by prolongation (commonly termed suspension), (3) dissonance by transition or passage (passing notes), (4) pedal, &c.

228. For purposes of harmony, a sound may be combined with any other, standing thereto in any of the ratios productive of the effect known as dissonance, whether diatonic or chromatic.

For a list of the several dissonant intervals, arranged in order of relative simplicity, see Graduated Table, p. 19.

229. The dissonant intervals found in the diatonic scale, are respectively those of the second, the seventh, and the ninth or compound second, major and minor, together with the tritone and its inversion the imperfect fifth. By the old masters the perfect fourth was accounted and employed as dissonant. (See *Counterpoint.*)

These respective combinations are most easily and exhaustively obtained by the superposition, in each instance, of one or of two

additional sounds, each a third higher than the preceding, to those which make up the *triads* upon the several scale sounds, thus constituting what are respectively known, from their extreme or characteristic (and dissonant) intervals, chords of the seventh and of the ninth.

Fig. 94 exhibits a succession of dissonant chords, formed by the process of adding thirds to the triad, in each instance, just described, the added sounds being indicated by a different species of note. It will be seen, from a consideration of the figure, that the several combinations differ in the order of succession of their component *ratios*, and hence in the *quality* of their intervals; and this not only, as previously shown (Fig. 90), in their *consonant* but likewise in their added *dissonant* portions. Thus in (*a*) the first and fourth chords of the seventh consist of a *major* triad, crowned by an additional *major* third (major seventh to the root); the second, third, and sixth of a *minor* triad surmounted by an additional *minor* third; and dismissing, for the present, the seventh combination as a section of the fuller fifth chord at (*b*), the fifth chord, at (*a*), is seen to be unique as (1) considered in itself, comprising a *major* triad surmounted by a *minor* third, (2) considered in relation to the scale or key in which it is found, containing, in conjunction with the note of simplest and therefore most intimate relation with the tonic, *i.e.*, its fifth, the pungent and characteristic ratio (45 : 64), that, viz., of the imperfect fifth or inversion of the tritone. By the presence of this interval, the chord can be identified with only *one* key (in the present instance that of C);—for even the existence of either of the keys *most closely allied to this*, those, viz., of its fourth and fifth, would require the rejection of one or other of these tritonic sounds, the former demanding B♭, the latter F♯ for its complete establishment—in contradistinction to the others whose sounds do not thus unmistakeably and exclusively determine any single key, since common to, in each case, at least *two* distinct keys, as denoted by the appended letters in Fig. 94. From the circumstance that this important combination invariably determines or *governs* the key, by the presence therein of the characteristic scale notes four and seven—those, *i.e.*, indispensably requiring alteration in any *change* of key—it commonly receives the appellation of *dominant*, and also of essential or *fundamental;* and the several other varieties are termed *secondary*, sometimes *simple*. As not essentially characteristic of a single key, they have also been appropriately designated as *non-fundamental*. (Art. 226.)

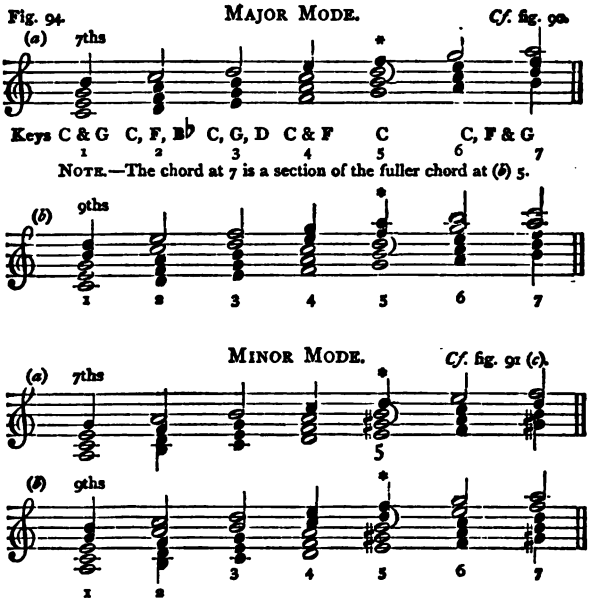


Fig. 94.
MAJOR MODE.
Cf. fig. 90.
(a) 7ths
Keys C & G C, F, B♭ C, G, D C & F C C, F & G
1 2 3 4 5 6 7
NOTE.—The chord at 7 is a section of the fuller chord at (b) 5.
(b) 9ths
1 2 3 4 5 6 7
MINOR MODE.
Cf. fig. 91 (c).
(a) 7ths
5
(b) 9ths
1 2 3 4 5 6 7

A similar variety, as to order of intervals, is observable in the series of chords of the ninth, formed upon the several sounds of the scale. Fig. 94 (*b*). In this case, also, the chord on the fifth sound —which consists of the important combination, just noticed, of dominant seventh, extended by the superposition of an additional third (varying as major or minor according to the *mode*)—stands out for special consideration as (1) being founded on the note of simplest relation to, and thus strongly suggesting, the tonic; (2) containing (substantially) the exceptional ratio of tritone; and (3) as comprising the whole of the sounds of the diatonic scale, with the exception of the consonant or reposeful—these missing sounds being of course strongly suggested by their absence—first and third of the tonic chord. This chord, which is known as that of the dominant ninth, constitutes, in fact, as an indicator and determinator of key, a further development of that of the dominant seventh. Other points of distinction between the *primary* or *fundamental* (those, *i.e.*, upon the dominant), and the various *secondary* chords, will be subsequently noticed.

§ 1. Fundamental or Primary Dissonance.

(a). The Chord of the Dominant Seventh.

As the triad or common chord, by its inclusion of the several consonant ratios, constitutes pre-eminently the type and material of all consonance, so does the chord of the dominant seventh, as (1) presenting instances of essentially all the dissonant intervals; and (2) being characterised, from its possession of the distinctive tritone, in a greater degree than all other combinations of sounds of the common scale (diatonic chords, *i.e.*), by the suggestive, restless, or constraining power of this latter attribute, afford a model of *dissonance.*

230. The dominant seventh, whether employed in the major or minor mode, invariably consists of the same intervals—of, viz., its root and the major third, perfect fifth and minor seventh to this. (See fig. 94 (*a*) (*b*).) In its latter use the combination is obtained by the addition of a minor third to the *modified* (as *major*) chord of the dominant of the minor mode. (Art. 216; fig. 96 (*b*).)

Subject to the conditions of progression, special to dissonance (chap. xxii.), the general laws as to inversion, distribution, duplication, and omission, previously enunciated with respect to consonance, apply likewise to dissonant combinations.

Hence, (1) as a rule, the sounds of the chord of the dominant seventh should be well and, as far as possible, equally separated (see fig. 96), although, for purposes of variety and in order to assert prominently the effect peculiar to dissonant ratios, exception is frequently made to this.

Consisting as it does of the *four* sounds, comprised in the root, together with the major third, perfect fifth, and minor seventh to this, either duplication or omission of some of the distinct constituent sounds of the dominant seventh (whether the combination be in *direct* or in *inverted* position) must, it is plain, be resorted to when it is desired to include in the combination either respectively a greater or a less number of parts than four.

In *omission*, the intervals should be retained in proportion to their distinctive or assertive power, this depending, of course, upon the more or less complicated nature of their producing ratio, while,

on the other hand, in *duplication* additions should be regulated by the degree of simplicity of ratio (and hence power of combining or welding), or of *non*-assertiveness of interval, sounds being doubled in obedience to this condition.

231. Hence, (1) generally, in the chord of the dominant seventh it is better to omit the 8ve than the fifth, and the fifth than the third; of course if the seventh be omitted the chord ceases to have existence. The seventh, as dissonant, with both the third and the root, and the third, as dissonant, with the *tonic* of the root—in fact its leading note—and forming also the dissonant interval of tritone with the seventh, are the characteristic intervals. (Fig. 95 (*a*).) (2) Double the 8ve sooner than the fifth, the fifth sooner than the third, the *seventh* sooner than the third. (Fig. 95 (*b*).)

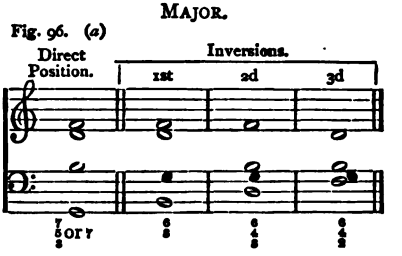
Fig. 95.

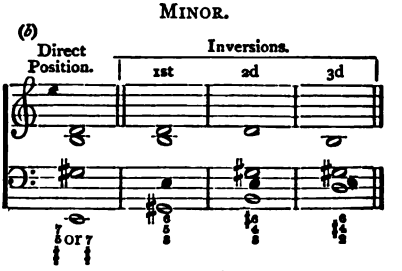
Fig. 95 (*a*) to (*d*) presents examples ranged in order of merit of respectively good and bad omission and duplication. In (*a*) (*c*) the black notes denote the sounds of omission, in (*b*) (*d*) those of duplication.

Strong evidence of the potency in music of scale relation is afforded in the insusceptibility of the third of this chord—the *sensitive* or leading-note—to duplication. The fact that, of all the sounds of the scale, it is the one most dissonantly related to, and hence, by contrast, *suggestive* of, the *tonic*, sufficiently accounts for its assertive power in a single presentation. (See the asterisks in fig. 95 (*b*) (*d*).) (Art. 187.)

232. As consisting of four distinct sounds, the dominant seventh is capable of three inversions. These are named respectively its first, second, and third inversions; or, with regard to the numerical indication of their several intervals, reckoning from the *bass*, the chords severally of (*a*) the fifth and sixth, or six five, generally figured $\frac{6}{5}$ for $\frac{6}{3}$ (*b*), the six four three, figured $\frac{6}{4}$, and frequently, should this involve no ambiguity, $\frac{4}{3}$, and (*c*) the second and fourth with figuring $\frac{6}{2}$, frequently $\frac{4}{2}$, and even *2*. (Fig. 96.)

Fig. 96. (*a*)

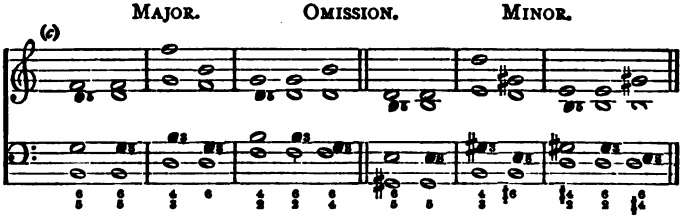




In fig. 96 the root is denoted in the several inversions by means of a black note.

Since inversion does not affect the essential nature of a combination, the rules enunciated in Art. 231, as to the duplication and omission of the sounds of the dominant seventh, apply, it is clear, with equal force to the several *inversions* of this chord.

The 8ve to the root, generally retained in the third, may often with effect be *omitted* in the second inversion of the dominant seventh. (Fig. 96 (*c*).)



NOTE.—The sounds intended for omission are indicated in fig. 96 (*c*) by means of black notes.

By the omission of the root of the dominant seventh, there results what is known as the diminished or imperfect triad (Art. 214), a formula of so frequent occurrence—in the form of first inversion—in the writings of the old masters, in lieu of the full dominant chord—rarely found therein—as to form a characteristic point of distinction of these. (Fig. 90.)

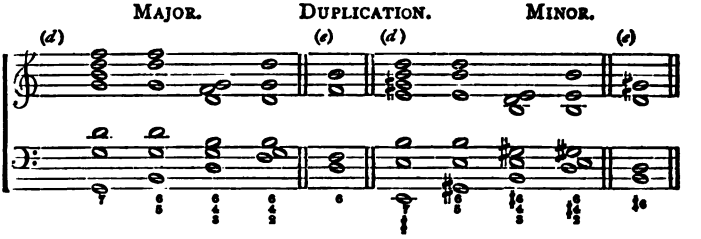
This combination, consisting of the leading-note of the scale, together with its minor third and its imperfect fifth, and thus embracing the second, fourth, and seventh scale sounds, with, between these latter, the contained interval of tritone, constituted, in its employment, as a substitute for the modern dominant chord, the most characteristic point of approximation to be found in the ancient, or strict style, to the tonality of the present day.

Its use is now only exceptional, chiefly in sequences and in imitation of the strict style. (See *Counterpoint.*)

As involving, when necessary, the accidental alteration of its *minor* dominant chord as *major*, the minor mode of the scale is made to comprise two instances of the imperfect or diminished triad, those, viz., respectively, upon its second or supertonic, and upon its seventh or leading-note. (See fig. 91 (*c*).)

In the first inversion of the dissonant triad, the third to the bass

being the seventh of the chord of the dominant seventh, from which the combination is derived, and of which it constitutes a section, is, in four or more parts, commonly doubled. (Fig. 96 (*e*).)



As a consequence of its potency pre-eminently to evoke and establish a scale, the chord of the dominant seventh is one of most frequent employment, much music of the lighter order being, in fact, constituted of little, if anything, beyond the alternation of this chord with that of the tonic.

Presenting, indeed, as these combinations severally do, an embodiment—in the case of one, the *only* embodiment—of the two cardinal attributes of music known, respectively, as consonance and dissonance (Art. 174), they may be regarded as the backbone—the ultimate substructure—of all music, in the modern and civilised sense, whatsoever.

(b). The Chord of the Dominant Ninth.

This chord, since, as we have seen, including the additional dissonance of ninth (or compound second), affords a more developed and complete determinator than does that of the dominant seventh of the scale, from whence it is derived. (Fig. 97.)

Since, too, the characteristic interval of ninth constitutes the *sixth* of the scale to which this dominant chord belongs, and the sixth, varying respectively with the *mode* as *major* or *minor*, is essentially a *modic* sound, it follows that, unlike the dominant seventh, whose constitution remains unaffected by change of mode, the ninth is subject to modification, as respectively major or minor, in accordance with the *quality* of its characteristic note. The immutability of the chord of the dominant seventh, with a change of mode, may be exemplified by the substitution, in figs. 95, 96, of the signature, in each instance, of the opposite mode of the same tonic.

As constituting a more perfect development of the dominant seventh, the chord of the *minor* ninth is necessarily and obviously based upon the *modified* (i.e., *major*) chord of the dominant of the *minor* mode. (Fig. 97 (*d*) (*e*) (*f*); Art. 230.)

The following rules as to the treatment of the fundamental chord of the ninth, by way of (1) position, (2) distribution, (3) duplication, and (4) omission, are based upon the principles previously advanced (Arts. 180–189).

233. (1) As a general rule the characteristic dissonant interval of ninth should be removed by at least this distance from the root, and, to avoid harshness, placed in the *major* chord above the third, particularly when intended for voices, although exception to this rule is afforded in the use of its fourth inversion occasionally found in the instrumental works of the great masters. (Fig. 97 (*a*).)

A form of the fourth inversion of the *major* chord of the dominant ninth, somewhat more commonly employed, is that with the root omitted.

In the *minor* chord the limitation as to the relative position of the third and the ninth of the combination, as well as to the number of available inversions, is not binding. (See fig. 98.)

(2) Omit the 8ve sooner than the fifth, the fifth than the third, and the seventh, generally, sooner than the third—a seventh being found, moreover, between the third and the ninth. (Fig. 97 (*b*) (*e*).) (3) Double the 8ve sooner than the fifth, the fifth sooner than the third, the seventh sooner than the third, the seventh sooner than the ninth. (Fig. 97 (*c*) (*f*).)

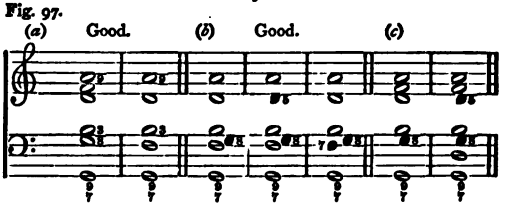
The dominant ninth, as containing a number of dissonances, is peculiarly susceptible of omission; consisting as it does, however, of at least five distinct scale sounds, duplication is not so frequently resorted to, as in the case of most other combinations.

The exigences of progression frequently necessitate the omission of the uncharacteristic fifth in preference to the 8ve.

The interval of ninth should not be doubled.

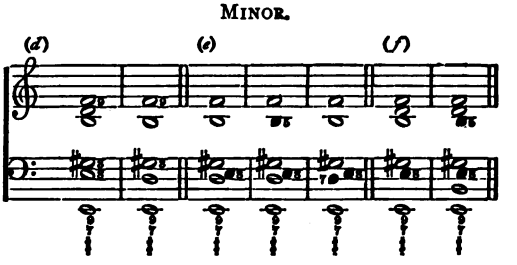
MAJOR.

Fig. 97.



In fig. 97 (*b*) (*e*) the sounds of omission, and in (*c*) (*f*) the sounds of duplication, are severally indicated by means of black notes.

MINOR.



234. The ninth has four inversions (Fig. 98 (*a*) (*b*), known respectively as its first, second, third, and fourth inversions, and severally figured $\frac{7}{5}$, $\frac{6}{5}$, $\frac{6}{4}$, $\frac{7}{6}$. (Fig. 98.)

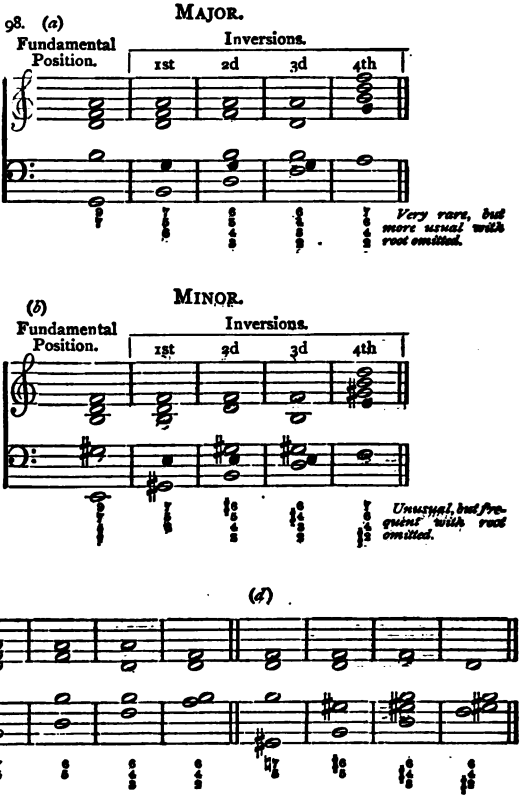
235. The first inversion of the chord of the dominant ninth (and the remark applies equally to the several other inversions of the combination in question) receives an employment most commonly (especially in *vocal* music) with the root *omitted*. It then consists of a chord of the seventh upon the leading-note, and is correspondingly known, when *major*, as the chord of the *leading*, when *minor*, as that of the *diminished* seventh; these several chords bearing in their respective modes the same relation to that of the dominant ninth (from

which they are derived) as does the diminished or imperfect triad to the chord of the dominant seventh. (Art. 232.)

The fourth inversion of the leading seventh, as necessitating the presentation of the ninth below the third of the root (Art. 233 (1), is seldom found.

Fig. 98 affords examples of respectively at (*c*) the leading and at (*d*) the diminished seventh with their several inversions.

Fig. 98. (*a*)



By the omission of the root—indicated by means of a black note—from the several examples in fig. 98, the derivation of the chords of respectively at (*a*) the *leading* and (*b*) the *diminished* seventh, with their several inversions, is clearly demonstrated.

(c). Chords of the Eleventh and Thirteenth.

In addition to the respective dominant discords of the seventh and the ninth, with their several inversions, use is made of combinations occurring upon the dominant and other scale sounds, and known respectively as the chords of the eleventh and the thirteenth; the treatment of these, as also of the various *secondary* chords exhibited in fig. 94, and employed in conjunction with the primary for necessary purposes of relief and diversification, being regulated in accordance with the general principles previously laid down as governing the several processes of position, distribution, duplication, and omission.

No cases seem to exist in which the so-called chords of the eleventh and thirteenth may not be adequately accounted for, and explained as either

(1) Secondary (diatonic or chromatic) discords (either sevenths or ninths) upon the supertonic.

(2) Discords by suspension.

(3) Upper or inner pedal notes.

(4) Passing or auxiliary notes.

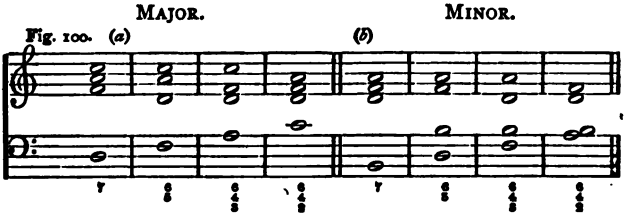
Fig. 99 affords examples of the several chords of, at (*a*), the eleventh and, at (*b*), the thirteenth; omission being commonly effected in the former of the interval of the third, as dissonant with the eleventh or compound fourth; in the latter of the interval also of the fifth, as dissonant with the thirteenth or compound sixth.

Fig. 99.

NOTE.—The omitted sounds are indicated by means of black notes.

§ 2. Secondary Dissonance.

The secondary (Art. 229) or simple chords (of which the seventh upon the supertonic, often known as the chord of the added sixth,* is the most frequent) exhibited in fig. 94, exercise in relation to the dominant or primary, a function precisely analogous to that possessed by the *subordinate* in relation to the *principal* scale *triads*—the attainment, viz., by means of a suitable interspersion of a necessary variety and relief.



Of the *inversions* of the several secondary chords, the *first* is that most commonly employed. Fig. 100 presents at (*a*) (*b*) examples of the secondary seventh upon the supertonic, with its several inversions.

§ 3. Alterative Dissonance.

Hitherto a consideration has been extended to dissonance regarded as an *integral* or *essential* structural element of the several chords in which it is embodied, but this attribute is also found as the result of *alteration* of the constitution of chords, as in the case of chromatic discords and of the processes known respectively as suspension, passage, pedal, &c.

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* The designation added, or great sixth, has been applied to this combination by many authorities, from the fact that, in its form of most usual application, that, viz., of first inversion, it is in reality constituted of the triad of the subdominant, whether major or minor, with an added sixth.

By other theorists it is regarded as fundamental, and derived from the dominant, and is styled the chord of the eleventh. (See above, § 1 (*c*).) Others derive the combination, similarly with that of the augmented sixth (Art. 249), from two roots, a supertonic and a dominant; its two *lower* sounds constituting, in this view, the fifth and seventh of the dominant; its two upper, those of the supertonic. (See fig. 100.)

Still, however produced, dissonance receives a regulation in combination, based upon the general principles previously enunciated and applied in the case of respectively the fundamental and the secondary discords.

(1.) Chromatic Alteration.

236. Any diatonic interval, whether its sounds be arranged by way of combination or of succession, and whether such interval be consonant or dissonant, may be chromatically altered (see chap. vi., § 3). The chromatic dissonances are those resulting from chromatic alteration, and formed by the extreme intervals known respectively as augmented or diminished.

237. A sound may be combined with any other occupying therewith a chromatic ratio.

For a list of the chromatic ratios see Table, p. 19.

Although possible with *any* chord, chromatic alterations are most commonly employed in the case of the *main* and *characteristic* chords of a key; those, viz., of its tonic, dominant (including the derivatives and the *dominant* of this), and subdominant.

The following are the chief combinations involving chromatic dissonance.

(a.) Chromatic Alterations of the Triad.

238. The fifth of the major triad, whether this latter be in direct or in inverted position, may be chromatically augmented (Art. 64). The combination is then known as the augmented or extreme triad. (Fig. 101 (*a*).)

239. The major triad may be diminished (Art. 64) by the chromatic elevation of its root, the combination thus forming an imperfect or diminished triad. (Fig. 101 (*b*).)

Fig. 101.

240. With the exception of the triad upon the dominant in the major mode, any of the three main triads of the scale in either of its modes may have its third chromatically inflected—whether, if minor by way of elevation, or if major by way of depression—and thus its modic constitution transformed from minor to major, and *vice versâ*. (Fig. 101 (*c*).)

The presentation of the minor tonic triad as major, of frequent occurrence at a close in, and hence characteristic of ancient music, has received the denomination, from the supposed locality of its original adoption, of *Tièrce de Picardie*.

241. The subordinate or secondary triad upon the supertonic, chromatically altered by the elevation of its third, and in the minor mode of its third and fifth sounds, is frequently and effectively employed as a chromatic chord in either mode. (Fig. 101 (*d*).)

As constituting a species of leading note in the key of the dominant, and forming the chromatic and characteristic interval of augmented fourth with the tonic of the scale, the third in this chord should not be doubled.

242. For exceptional purposes of chromatic colouring, use is sometimes made with powerful effect in either mode of a triad whose root is situated a minor second (diatonic semitone) above the tonic. (Fig. 101 (*e*).)

243. The first inversion of this combination, a combination resulting in the minor mode from the chromatic *depression* of the leading-note in the dissonant triad formed upon the minor supertonic, is termed the Neapolitan sixth. (Fig. 101 (*e*).)

In the Neapolitan sixth, the bass, although virtually the major third of a triad, may—as the important fourth (and in the major *only*) sound of the original key to be found in the chord, and thus as an element suggestive of tonic effect, and so calculated to preserve the unity of such original key—be doubled.

244. The major triad, formed upon the chromatically lowered sixth of the major scale, is employed as a chromatic chord in the major mode. (Fig. 101 (*f*).)

For a similar reason to that advanced in Art. 243, the third in this chord may—as the original tonic—receive duplication.

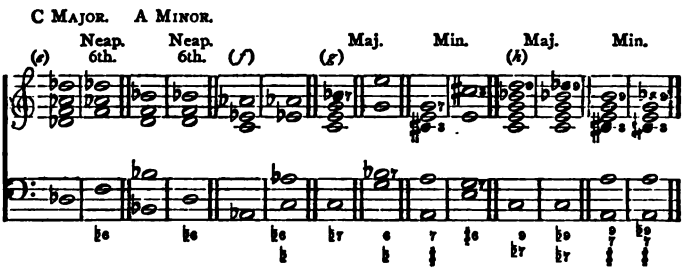
Although, as essentially consisting of the triads of the submediant or sixth sound in the several keys of the minor subdominant and the minor tonic of those in which they are chromatically employed, the combinations described in Art. 242–244 are *statically* (and considered in themselves) *consonant*, yet, as being *consonant in another key* than that in which they occur chromatically—and hence, while strongly suggesting the feeling of *repose*, imperatively asserting the incompatibility of their continued presentation with that of the unity of the reigning scale, and so the paramount urgency and necessity of *motion*, of succession by characteristic scale chords—they are productive of a highly impressive and (from in this latter connection their essentially extraneous and foreign tonal constitution), in the *major* mode, almost startling effect.

By its substitution of a reposeful in lieu—in the minor mode—of a pungent tritonic combination, and from its subdominant extraction, the chord known as the Neapolitan sixth is generally recognised as one of great softness and beauty.

245. The tonic triad in either mode, converted into, *statically*, a chord of the dominant seventh by the addition above its constituent sounds of a minor seventh to

the root, is employed as a chromatic chord in the key of which its root constitutes the tonic. (Fig. 101 (*g*).)

246. The tonic triad in either mode, converted into, *statically*, a chord of the dominant ninth (either major or minor) by the addition above its constituent sounds of a minor seventh and a major or minor ninth to the root, is employed as a chromatic chord in the key of which its root constitutes the tonic. (Fig. 101 (*h*).)



The formation of the chords described in Art. 245, 246, upon the *minor* tonic, necessitates, of course, the chromatic elevation of the third from the root. The interval of third, both from its relation to the other sounds of the chord and from its constitution as a species of leading seventh in the key of the subdominant, must not be doubled. When treated by the omission of the root in the second inversion as a dissonant triad, the seventh in the chord of the tonic seventh may *not* receive duplication, since, by reason of the delicacy of its constitution as the leading note of the key—*la note sensible*—the alteration induced by a single depression is sufficiently apparent. (Fig. 101 (*g*).)

(b.) Chromatic Alterations of Dominant Discords.

247. The fifth of the chords of respectively the dominant seventh and the dominant ninth—and the rule is applicable to the corresponding (*statically* considered) dominant combinations upon severally the tonic and the supertonic of the scale—may be augmented. This form

of the chord is found in the direct and in the first inverted positions, seldom, however, in the second and third. (Fig. 102 (*a*).)

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248. The fifth of the chord of the dominant seventh, whether the root of this combination be present, or, as in the form of dissonant triad, *omitted*, may be chromatically *lowered*, thus forming chords styled from the most characteristic interval of their most commonly employed, viz., their *second* inversion,* those of the augmented, sharp or extreme sharp sixth, and known in the former use of such second inversion (that, viz., as a $\frac{6}{4}$) as the *French* (fig. 102 (*b*), in the latter (that, viz., as a simple $\frac{6}{3}$) as the *Italian* sixth. (Fig. 102 (*c*).)

THE FRENCH SIXTH.

* Denoted in fig. 102 (*b*) (*c*) by asterisks.

THE ITALIAN SIXTH.

249. The derivative of the fundamental or dominant chord of the minor ninth, known as the diminished seventh, and as employed in either mode, may have its third sound—the fifth from the root of the fundamental chord from which it is derived—chromatically lowered, thus forming a chord styled from the most characteristic interval of its most commonly employed—viz., its first-inversion; that of the augmented, sharp or extreme sharp (commonly termed the *German*) 6th. (Fig. 102 (*d*).)

THE GERMAN SIXTH.

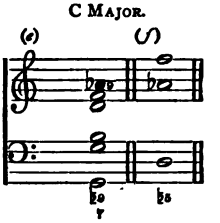
By some theorists the several chords of the augmented or sharp sixth have been derived from two roots—a primary and a secondary—those, viz., of the dominant and the (intimately related to this) supertonic. In this view the chromatically lowered fifth to the supertonic is regarded as the minor ninth to the *dominant*, the remaining sounds of the respective combinations receiving a *supertonic* derivation.

The highly effective chord of the augmented sixth, in the three several forms above enumerated, has been employed by leading

composers in an inverted as well as in a *direct* position.* The first inversion is that most frequently met with. The characteristic sixth very rarely occurs in an inverted form as a diminished third, and the chord under consideration is employed far less frequently with a *dominant* derivation, *i.e.*, upon the minor second, than with a *supertonic, i.e.*, upon the minor *sixth* of the scale.

The epithets French, German, Italian, and Neapolitan sixth, together with that of *Tièrce de Picardie* (see Art. 240), were originally bestowed upon the several combinations so indicated as a result of their supposed primary introduction or most frequent employment in these respective countries.

250. The chord of the fundamental or dominant ninth, with the ninth chromatically lowered, is employed in all its forms, whether fundamental or derivative, direct or inverted, as a chromatic chord in the *major* mode. (Fig. 102 (*e*).)



A frequent form of this chord is that in which it is presented as one of the two dissonant triads derived from the fundamental form, and constituted by the chromatic depression of the fifth in the subordinate or secondary supertonic triad. (Fig. 102 (*f*).)

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* The *second* inversion of the chromatically modified dominant chord, treated of in Art. 248, and the *first* of that considered in Art. 249, are—as presenting the characteristic interval of augmented sixth (that severally giving the combinations their distinctive names), where its effect is most apparent to the ear (viz., in the *extreme parts*)—commonly regarded as the *direct* or *fundamental* positions.

The inversions in question are correspondingly denoted by asterisks in the several figures.

THE ITALIAN SIXTH.

249. The derivative of the fundamental or dominant chord of the minor ninth, known as the diminished seventh, and as employed in either mode, may have its third sound—the fifth from the root of the fundamental chord from which it is derived—chromatically lowered, thus forming a chord styled from the most characteristic interval of its most commonly employed—viz., its first—inversion; that of the augmented, sharp or extreme sharp (commonly termed the *German*) 6th. (Fig. 102 (*d*).)

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The highly effective chord of the augmented sixth, in the three several forms above enumerated, has been employed by leading

composers in an inverted as well as in a *direct* position.* The first inversion is that most frequently met with. The characteristic sixth very rarely occurs in an inverted form as a diminished third, and the chord under consideration is employed far less frequently with a *dominant* derivation, *i.e.*, upon the minor second, than with a *supertonic, i.e.*, upon the minor *sixth* of the scale.

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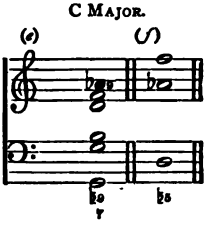


A frequent form of this chord is that in which it is presented as one of the two dissonant triads derived from the fundamental form, and constituted by the chromatic depression of the fifth in the subordinate or secondary supertonic triad. (Fig. 102 (*f*).)

* The *second* inversion of the chromatically modified dominant chord, treated of in Art. 248, and the *first* of that considered in Art. 249, are—as presenting the characteristic interval of augmented sixth (that severally giving the combinations their distinctive names), where its effect is most apparent to the ear (viz., in the *extreme parts*)—commonly regarded as the *direct* or *fundamental* positions.

The inversions in question are correspondingly denoted by asterisks in the several figures.

(c.) Chromatic Alterations of Supertonic Discords.

As intimately related to the sound most closely connected with the tonic—the characteristic *dominant* of the scale—and constituting, in fact, the dominant of *this*, the *supertonic* is fittingly selected as the seat of chromatic alteration.

251. The secondary seventh upon the supertonic, converted by the chromatic elevation of its third (and in the *minor* form of its *fifth*) sound into (*statically*) a *dominant* seventh, receives frequent employment as a chromatic chord in either mode. (Fig. 103 (*a*).)

Fig. 103. (*a*)

This combination bears the same relation to the unmodified supertonic seventh as that occupied by the chromatic to the uninflected and subordinate supertonic *triad*.

As in the case of the triad upon which it is based, and for the reasons advanced in Art. 241, the third in the chord of the supertonic seventh should not be doubled. When, however, the chord is presented with the root omitted as the first inversion of a dissonant triad, and in certain other cases (*Cf.* Arts. 243, 244), the seventh as the *tonic* of the key may receive duplication.

252. The *secondary*, converted into (*statically*) a *dominant* or *fundamental* ninth upon the supertonic, may be employed (1) in its major form in the major (fig. 103 (*b*), and (2) in its minor form in both the major and the minor mode. (Fig. 103 (*c*).)

With regard to the omission, distribution, and inversion of its sounds, the supertonic receives a treatment precisely analogous to that by which the dominant discord is regulated.

253. The *leading* seventh upon the raised subdominant (derived from the supertonic regarded as a dominant root), and consisting of the tonic, major third and sixth, and chromatically raised fourth, is employed as a chromatic chord in the major mode. (Fig. 103 (*d*).)

254. The *diminished* seventh upon the raised subdominant (derived from the supertonic regarded as a dominant root), and consisting of the tonic, major sixth, chromatically lowered third, and raised fourth, is employed as a chromatic chord in either mode. (Fig. 103 (*e*).)

255. The chromatic sounds of a chord should not ordinarily be *doubled*. In combinations containing

both diatonic and chromatic dissonances, the former, as the least distinctive, should first receive duplication.

CHAPTER XXII.

Laws of Dissonant Progression. Fundamental and Secondary Dissonance.

256. IN addition to the general laws of progression previously advanced (chap. xix.), the distinctive nature of dissonance demands, in the regulation and treatment of this great attribute, the observance of additional and special conditions.

Dissonance has been described (chap. xvii.) as a sensational effect, dependent upon the, relatively with consonance, increased *complexity* of the ratios of its producing sounds, and suggesting—even imperatively demanding—alternation with the complementary effect known as consonance. Dissonance is the great dynamic force, the great *moving* power among chords. A dissonant combination having been heard, the ear is not satisfied until its succession is accomplished by a tonal conjunction of simpler structural constitution.

This special progression of a dissonant to a consonant combination, whether at once or ultimately achieved—as well as the consonant chord itself—is termed its *resolution* (Art. 205). A dissonance is said to be *resolved*, or to *resolve* itself, upon a succeeding consonant combination. In all cases the sound of resolution is one of simpler relation to a *common* sound than is the dissonant; and, moreover, in order that this may be clearly comprehended, and nothing of satisfaction lost to the ear in the carrying out of the musical law of alternation involved, the resolution is effected by the smallest progression of interval, the dissonant sound usually, as most suggestive of rest, *descending* (although sometimes *ascending*) one degree, and the retention of common notes being sought after where practicable (Art. 206). It will be seen upon a consideration of the several examples contained in the present and the following chapters, that the resolu-

tion involves, normally, a combination of simpler structural ratio than does the percussion or actual stroke of the dissonance.

§ 1. Fundamental or Primary Dissonance.

The fundamental discords, so termed, as, for the time being, laying the *foundation* of and determining the scale of a musical passage, and, in the modern view, essential to its complete and satisfactory establishment, are those previously enumerated of the dominant seventh and the dominant ninth, with their respective derivatives, the diminished triad, the seventh on the sensible, and the diminished seventh—all possible upon one note exclusively of a diatonic scale, that, viz., of simplest and most intimate relation with the tonic—the dominant.

As strongly indicative of, in fact urgently demanding, succession by the embodiment of consonance presented in the *tonic triad*, the fundamental discords, whether in their direct or their inverted forms, are normally *resolved* upon this in obedience to the general rule stated in Arts. 205, 206. Moreover, either the *percussion* or the *resolution* of a fundamental dissonance may take place at any part of a bar, and upon any degree of accent.

We proceed to the resolution of the several fundamental discords in order.

(a.) Resolution of the Dominant Seventh.

257. The normal resolution of the fundamental discord of the dominant seventh in its direct position is effected as follows:—

(1.) The root falls a fifth (or rises a fourth) to the strongly suggested tonic (fig. 104 (*a*)).

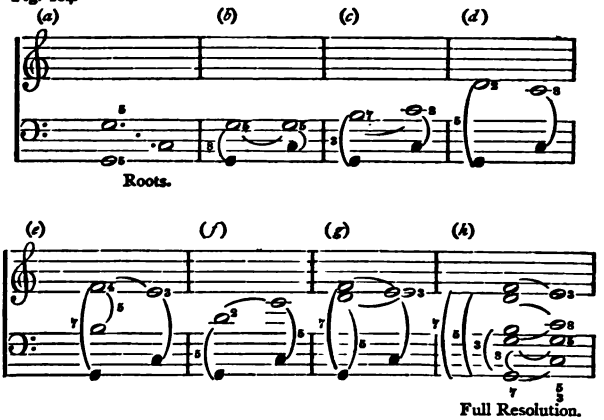
(2.) The 8ve to the root—fifth to the tonic—keeps its place as a common or binding note—a bond of union between the two chords (*b*).

(3.) The third (leading-note) rises to the strongly suggested tonic (*c*).

(4.) The seventh, as the characteristic dissonance to the root and imperfect (tritonic) fifth to the leading-note, falls one degree to the third of the tonic (*e*).

(5.) The fifth, as consonant with each of the remaining sounds, and hence limited only by the general laws of progression applicable to consonance, in order (1) to avoid consecutive fifths with the root by proceeding to the fifth of the tonic (*f*); or (2) doubling the major third by rising (*g*), most conveniently falls to and doubles the tonic (*d*).

Fig. 104.



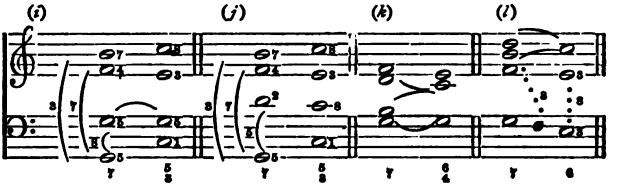
NOTE.—In the above and other figures the roots of the several chords are indicated by means of black notes. The numerals appended to the several *notes* show the relations occupied in each instance by these with the *tonic* of the scale in which they occur; those attached to the connecting *slurs*, the intervals found between the sounds so joined *themselves*.

It will be seen from fig. 104 (*h*) that *five* parts are required for the *complete* resolution of the chord of the dominant seventh. Hence, the progression of the tritone and the root being fixed (see fig. (*a*), (*c*), (*e*), (*m*)), it is necessary in four-part harmony to double the root and omit the fifth, in order to prevent the omission of the tonic fifth, and thus secure a full common chord in the resolution (*Cf.* fig. 104 (*i*) (*j*), in the former of which the fifth is omitted from the discord, in the latter from the chord of resolution).

The succession of the chord of the dominant seventh by that of

the tonic, constitutes the effect termed a perfect cadence. For the reasons advanced in chap. xxi., § 1 (*a*), it is of paramount importance that the nature, functions, and effect of this harmonic succession should be thoroughly realised and understood by the student. (See also p. 25, note.)

The dominant seventh, in its *direct* form, may be resolved upon any form of the tonic triad (fig. 104 (*k*)), with the exception of the *first* inversion of this, since such a progression would result not only in a duplication of the major third, but also in hidden consecutive 8ves (Art. 202), and this in each instance with the highly exposed (extreme) *bass* part. (Fig. 104 (*l*).)



258. Omitting those forms which involve sounds belonging to foreign scales, another natural form of resolution of the dominant seventh to a chord *within* the key is that upon the triad based upon the *sixth* sound of the scale, whether such scale be arranged in its major or in its minor mode.

In this case (1) the third and the seventh (tritone) proceed as before. (Fig. 104 (*m*).)

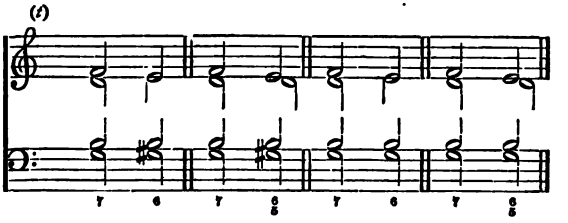
(2) The root rises one degree to that of the chord of resolution (*n*).

(3) The fifth, to prevent consecutive fifths (*p*), falls one degree (*o*), thus doubling the third of the succeeding chord (*q*). For the full resolution in four parts, see fig. (*q*). The chord of resolution is sometimes found in a *major* as well as in a *minor* form, see fig. (*s*).

When occurring in an inner part, the leading-note in this resolution sometimes *falls* (in the major) one degree (fig. (*r*)); but this progression should be avoided in the minor, as necessitating the passage by an augmented second (Art. 199), and the lesser evil involved in the duplication of the major third adopted. (*Cf.*

fig. 104 (*q*) (*r*), and 92 (*a*) (*b*).) The exceptional resolution described in Art. 258 constitutes the effect variously known as an interrupted, delayed, abrupt, or false cadence.

259. Another irregular resolution of the dominant seventh upon a chord within the key is, as containing a note to which the dissonant seventh may *fall*, that upon either the dominant triad or the dominant seventh of the minor mode with or without the elevated third. (Fig. 104 (*t*).)

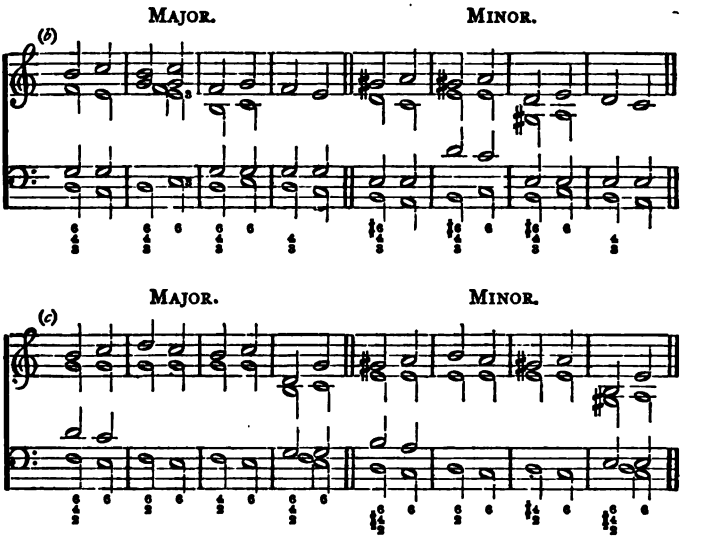


260. For purposes of variety the dominant seventh may, prior to its resolution, be succeeded (as well as

preceded) by (*a*) one or more of its own inversions (see *Inversions*); or (*b*) by a chord in which the dissonant seventh is *consonant*—as, *e.g.*, the triads of respectively the supertonic or the subdominant (fig. 104 (*u*)); or (*c*) the dissonant note may be succeeded by another of the same harmony (fig. 104 (*v*)); or (effectively with contrary motion) transferred from part to part (*w*). But in all these cases the dissonant seventh must *ultimately resolve* (Arts. 205, 206, 256) by descending one degree.

Since the process of inversion does not change the characteristic nature of a chord, the same principle is observed in the resolution of the several *inversions* as in the *direct* form of the dominant seventh as exhibited in fig. 105 (*a*) (*b*) (*c*).

* It should be noted with regard to the above, and indeed to the majority of the examples contained in the present work, that they are *suggestive* rather than *exhaustive* in character, the main object involved in their presentation consisting rather in the illustration of the mode of application of *underlying principles* (and the stimulation thereby of the student's mind to fresh acquisitions and extended discoveries), rather than in the detailed and elaborated accumulation of a multitude of more or less isolated and detached instances of individual treatment.



The first inversion of the dominant seventh with the root omitted is termed, as we have seen (Arts. 214, 232), the dissonant, imperfect, or diminished triad.

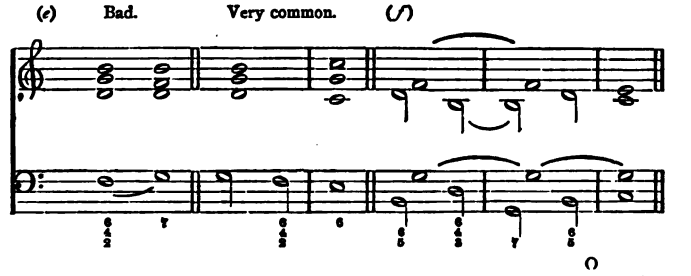
This combination, based upon the leading-note of the scale, and characteristic of the ancient or strict style of composition, is commonly followed by the tonic triad, and treated as an imperfect section of the dominant seventh (fig. 105 (*d*), *cf.* (*a*) to (*c*))—its third and fifth notes receiving when necessary *duplication*, and, in the latter case, the repeated fifth proceeding upwards one degree to the fifth of the tonic triad. (See this denoted by asterisks and slurs in the figure.)

MINOR.

As constituting the chord of the supertonic of the relative minor, the dissonant triad is often found in a *minor* connection as a *secondary* or subordinate triad, a progression common in cadences (Art. 315 I.), and is then normally succeeded by the modified (as major) dominant triad of the relative minor. It is also employed in this and other connections in sequences, in which case its usual conditions of progression are waived in obedience to those of the form in question (see *Sequence*).

It should be noticed that the succession of the third inversion of the dominant seventh by the *direct* form, as involving the ascent of the dissonant note, has, in general, a harsh effect (fig. 105 (*e*)). The direct is, however, frequently preceded by the several other inverted forms (fig. 105 (*f*)).

In his analysis of the works of good writers, the student should carefully note—seeking to discover from the context the special effect designed—all *exceptional* forms of resolution and other progression. One or two examples are given in fig. 105 (*g*).



(b.) Resolution of the Dominant Ninth.

261. The regular or normal resolution of the discord of the dominant ninth, like that of its section the dominant seventh, is upon the tonic triad. Fig. 106 (*cf.* Art. 257 and fig. 104).

(1.) The root falls a fifth (or rises a fourth) to the suggested tonic, fig. (*a*).

(2.) The 8ve to the root keeps its place as a common note (*b*).

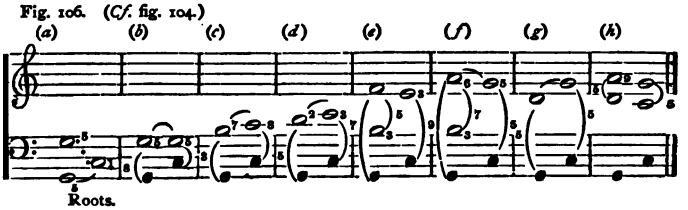
(3.) The third (leading note) rises to the tonic (*c*).

(4.) The ninth, as dissonant ninth to the root and seventh to the third, falls one degree to the fifth of the tonic (*f*).

(5.) The seventh, as seventh to the root and imperfect (tritonic) fifth to the third, falls one degree to the third of the tonic (*e*).

(6.) The fifth (forming a consonant interval with each of the other notes, and hence bound by no special law of resolution), in obedience to the general laws of progression, and in order to avoid consecutive fifths, (1) with the radical bass, which would result from its proceeding to the *fifth* of the tonic (*g*), or (2) with the upper ninth, which would result from its proceeding to the tonic *itself* (*h*), most conveniently rises to the third (*d*).

Fig. 106. (*Cf.* fig. 104.)



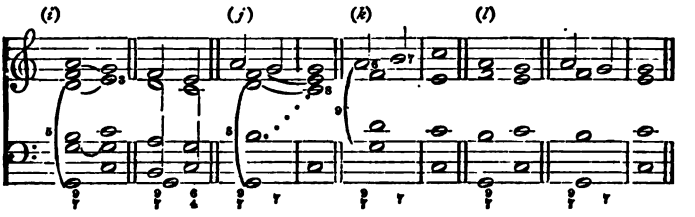
NOTE.—In fig. 106 the roots of the several combinations are indicated by means of black notes. (See note fig. 104 *a–h*.)

One of the fifths being in this case *imperfect*, the limitation as to the progression of the fifth of the discord to the tonic of the chord of resolution is not binding in the *minor* form of the fundamental ninth. (See fig. (*i*).)

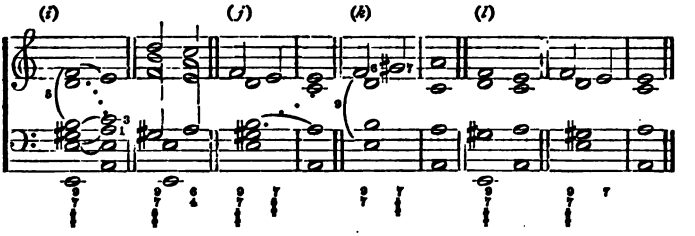
For the full resolution of the chord of the dominant ninth, which requires for its exhibition at least *six* parts, see fig. 106 (*i*).

In four-part harmony the fifth, as the least distinctive sound, is commonly omitted, fig. (*l*).

MAJOR.



MINOR.



262. An additional resolution of this chord upon a combination within the key is that into the dominant seventh, the ninth resolving either upon the 8ve (fig. (*j*)) or the third to the root (fig. (*k*)), and the seventh proceeding ultimately to resolution.

Since not productive of consecutive fifths, the passage of the fifth to the tonic in the discord of dominant ninth, prohibited in the normal resolution, is practicable in that upon the dominant seventh (see fig. (*j*)).

From a comparison of figs. 104 and 106, it will be seen that the mode of resolution of the several fundamental discords of the seventh and the ninth is, as—from their almost identity of constitution—might have been expected, in the main one and the same. In the latter combination the application of the general law of resolution, involved in the conjunct progression by descent (Arts. 206 and 256) of the characteristic dissonance to (considered as a ninth to the root) the interval of an 8ve, and (considered as a seventh to the leading-note) to the interval of a perfect fifth, should, together with the independent resolution of the seventh, be carefully noticed; and a similar and detailed observation invariably and faithfully extended to all other forms and varieties of dissonance.

For a chromatic use of the minor ninth in the major key, see Art. 278.

The discord of the ninth is very frequently *prepared.*

The rule as to the contextual succession and treatment of the direct with the several inverted forms of the combination previously enunciated with respect to the dominant seventh, applies also to the dominant ninth.

263. Of the four possible inversions of this chord, only three are at all frequent, and these occur chiefly in the imperfect forms known respectively as the leading and the diminished sevenths, with their inversions, and involving the omission of the root. (Fig. 107 (*a*) (*b*) (*c*).)

Fig. 107. (*a*)

It is a peculiarity of the chameleon-like nature of the chord of the *diminished* seventh, that, constituted as it practically is, of three minor thirds—for the augmented second, produced by inversion of the extreme interval of seventh, is virtually, since

interchangeable therewith, a minor third—it may, by a notational alteration, be looked upon (1) as the enharmonic equivalent of itself; or (2) as another *position* of one of *three other* diminished sevenths, or of the enharmonic equivalents of these, and resolved accordingly (fig. 107 (*c*)). It has, therefore, been designated as, *par excellence*, the *enharmonic* or *ambiguous* chord; and its employment for purposes of modulation constitutes one of the most beautiful and distinctive features of modern music. (Fig. 107 (*c*).) Art. 333.

(*c*) (*Cf.* fig. 137 (*c*).)

DIRECT POSITION. FIRST INVERSION. SECOND INVERSION. THIRD INVERSION.

NOTE.—The enharmonic equivalents of the several chords are denoted in fig. 107 (*c*) by means of black notes.

In order the more effectually to demonstrate the ambiguous character of the chord of the diminished seventh, as *statically* and in itself common to a variety of keys, it will be found a useful task for the student to prefix the *signatures* of the several keys indicated in fig. 107 (*c*). The virtual identity of the *first* chord, with the initial combination in each successive bar of the fig., should be carefully observed.

The use, in the major mode, of the combination known by modern musicians as the leading seventh, and derived from the fundamental chord of the dominant ninth, must be carefully distinguished from its employment as the secondary or simple seventh upon the supertonic of the relative *minor*, and its treatment regulated accordingly. As in all similar cases of doubt, it may be invariably known from its context, the major chord demanding resolution on the tonic major (fig. 107 (*a*)); the minor (often found in sequence in the strict style) a succession, in general, by the minor dominant (see § 2, and *cf.* Art. 260). (Fig. 108 (*b*) and 138.)

(c.) Resolution of the Chords of the Eleventh and Thirteenth.

Since (it is thought) most satisfactorily explicable in accordance with the laws of harmony, as instances of either (*a*) (very commonly) suspension, (*b*) passage, (*c*) pedal or holding-note, or (*d*) a combination of these with other ornamental devices, and hence demanding a treatment in progression regulated by the laws governing these several forms; the combinations known as the chords of the eleventh and thirteenth, and regarded by some theorists as dominant or essential, are exemplified under the respective heads herein indicated, to which, therefore, for illustration, the student is referred.

§ 2. Secondary Dissonance.

Although not, like fundamental or dominant discords, unmistakeably characteristic of a *single* key, but, on the contrary, common to at least *two distinct* keys (see fig. 94); the combinations known as secondary sevenths frequently occur in modern music without the *preparation* (Art. 285) characteristic of the strict style, and subject to a free treatment analogous to that by which the former or fundamental class is distinguished.

When this is the case, although it should be carefully avoided in early, and used sparingly and with a discrimination matured by the observation and study of good writers, even (in the case of *voices*) in *advanced* composition, the following conditions in the treatment of secondary sevenths are ordinarily to be observed.

(1) The seventh, being the dissonant note, should descend one degree (Arts. 206 and 256). Moreover (as constituting the nearest approximation to the preparation paramount in the strict style), this interval should be approached conjunctly from an adjacent note, and in the same part.

(2) The third, not—as in the case of *dominant* discords—forming the interval of *tritone* with any other sound of the combination, is under no special restriction as to its progression.

These conditions may be secured, and due *resolution* (which is normally indispensable) obtained, by the progression of the secondary seventh to the chord of either (*a*) the triad, or (*b*) the seventh (fig. 108) upon the root, situate a fourth above its own. The suitability and natural character of this progression are evident from a consideration of fig. 91 (*e*), and of the explanatory remarks appended thereto. (*Cf.* figs. 137 (*j*) and 138.)

Fig. 108 affords examples of the resolution of secondary discords of the seventh, a very effective resolution of the most frequently employed of these—viz., the *supertonic* seventh, in addition to that upon dominant discords, consisting in its succession by *tonic* harmony, direct or inverted. When resolved upon the *second* inversion of the tonic triad—the $\frac{6}{4}$—this latter is generally succeeded by the triad or the seventh upon the dominant, a progression common in cadences.

The extensive *cadential* and other use of this chord, together with its characteristic resolution upon scale-determining combinations, naturally result from—by reason of its constitution as the *quasi dominant* of this—its intimate relation to, and hence suggestiveness of, the *dominant* of the scale; such resolution effectually serving—by correcting this suggestiveness—to confirm and establish the tonic or reigning scale. Examples of the cadential employment of the chord of the added sixth are given in the figure. (*Cf.* Art. 315, I.)

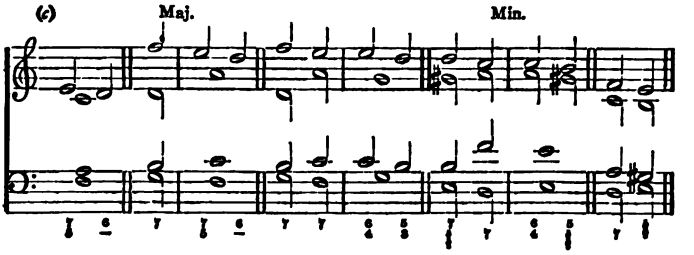
Secondary ninths, as being invariably *prepared*, come under the category of discords by suspension. (Chap. xxiv.)

For examples of sequential treatment of secondary sevenths see fig. 137 (*j*) and 138.

SECONDARY SEVENTHS.

Fig. 108. (*a*) MAJOR.

(*b*) MINOR.



CHAPTER XXIII

Laws of Dissonant Progression (*continued*). Alterative Dissonance. Chromatic Alteration.

HITHERTO we have considered dissonance in its function as an integral and essential structural element in the constitution of musical combinations. It is now to treat of this attribute as produced by sounds *unessential* and *foreign—not* forming an indispensable, inherent, and characteristic portion of the combinations into which they are severally introduced. Regarded from this point of view, dissonance forms the result of a process of structural *alteration* in chords attended by a corresponding modification in their constitution and character.

264. The main variety of dissonance, known from the mode of its production as alterative, forms the result of a process of modification in the structure and, consequently, character of musical combinations.

265. Three distinct processes of modification or alteration of the structure of chords, productive of the effect termed alterative dissonance, are employed in music, and severally known as

(1.) Chromatic alteration.

(2.) Alteration by prolongation or suspension.

(3.) Alteration by transition or passage.

In every case the production of the variety of dissonance, known as alterative, involves the rejection of certain of the essential sounds of a chord, and their replacement by other and extraneous or foreign sounds of substitution.

Chromatic Alteration.

In addition to the means presented in the several diatonic discords, secondary and fundamental, dissonance may, as we have seen, be produced by the use of chromatic alteration (Art. 236), as demonstrated in the graduated table (p. 19). The chromatic dissonances, since the result of the sound-ratios of the highest grade of complexity, are, in character, the most piquant and unrestful of all.

The general laws, with regard to progression to consonance by the smallest interval enunciated as regulating the conduct of dissonance generally (Arts. 206 and 256), are, if possible, even more binding in the case of the highly dissonant and delicate combinations termed chromatic.

The extension of the condition just specified to meet the case of chromatic combinations has resulted in the following law of general application in the case of chromatic progression.

266. A chromatically-*augmented* sound generally *rises*, while, on the other hand, a chromatically-*diminished* sound possesses a tendency to *descend* in its progression. Hence the resolution of a chromatic dissonance is normally effected by the progression (1) of its sounds of *augmentation* to those respectively situated a semitone *above*, (2) of its sounds of *diminution* to sounds situated a semitone *below*, in each instance, the original chromatic sounds themselves.

It is a consequence, too, of the exceptional complexity of structure of chromatic ratios that the ear most inexorably looks forward to, and craves the early presentation of combinations exclusively characteristic of the reigning scale. Hence the resolution of chromatic dissonances commonly involves a passage either —from the key-determining character of these—to some form of *tonic* or of *dominant* harmony. If *tonic*, the vague, suggestive

second inversion—the $\frac{6}{4}$—is of frequent occurrence as provocative of characteristic dominant harmony. On the other hand, if *dominant* harmony be first attained, the key is ordinarily more completely confirmed by the early succession of tonic.

267. A chromatically altered sound is frequently, although not invariably, preceded by the diatonic scale-sound immediately contiguous thereto. As a general rule, too, combinations formed by chromatic alteration, unless thereby violating some law of progression, take the same virtual succession as would the unmodified diatonic.

As a means of verifying and illustrating the principles above enunciated (Arts. 266, 267), the analysis of the several examples of chromatic resolution, exhibited in the present section, and the subsequent extension of the process to actual compositions, is recommended as a useful task to the student.

As denoted by the same collection of accidental alterative signs with the diatonic sounds to which in practice they are regarded as equivalent—with which, in fact, they differ *enharmonically*, the notation of chromatics has been made to involve considerable anomaly. The student is cautioned against the misleading influence of the erroneous specimens of notation which may come under his observation, and it will be found in all cases a valuable exercise, after analysing a doubtful combination, and thus ascertaining both the *scale position* of its component sounds, and their relation to the *root*, to *re-note* the same, invariably employing signs of *elevation* for chromatically *raised* and corresponding ones of *depression* for chromatically *lowered* sounds.

§ 1. Chromatic Alterations of the Triad.

268. The combination known as the augmented or extreme triad—of not unfrequent employment in the form of a first inversion in the early Church writers of the English school—takes a progression, differing only from that of the unmodified chord, in permitting the succession of its chromatic (augmented) by the next diatonic sound. (Fig. 109.)

Fig. 109. Augmented Triad.

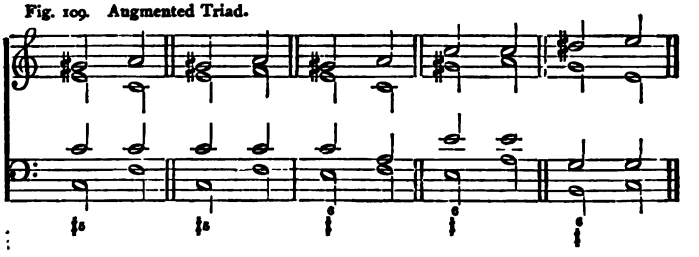
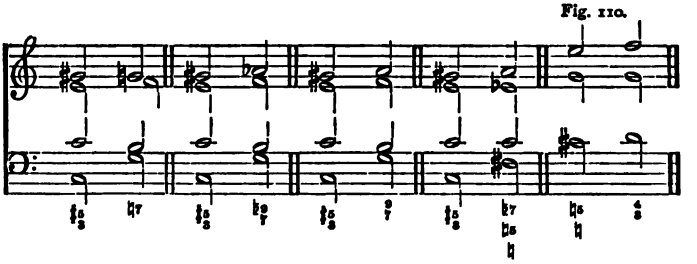


Fig. 110.



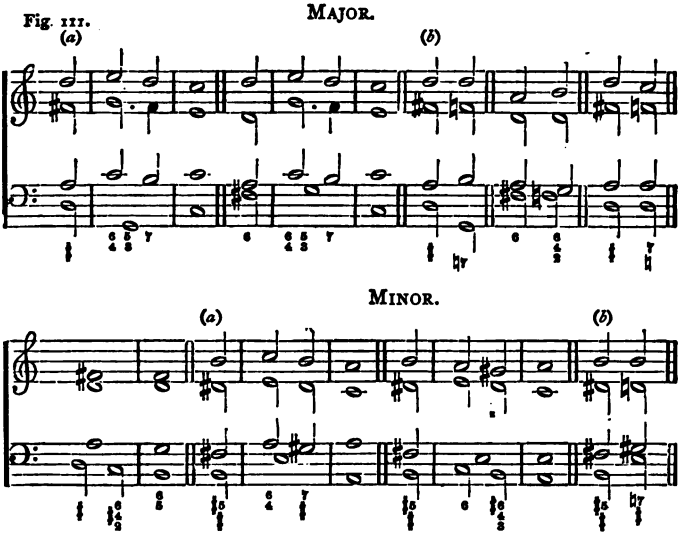
269. The *diminished*, formed by the chromatic elevation of the *root* of a major triad, takes a progression in obedience to precisely similar conditions as the *augmented*—viz., as though the chord were unmodified, with the exception that the augmented note must rise as before. (Fig. 110.)

270. Triads chromatically modified by way of modal alteration, as a result of either the elevation or the depression of the third from the root, ordinarily receive —care being taken to secure (by way of succession) a minimum of exceptional intervals, and to avoid false relation (Art. 207)—the progression and context ordinarily appropriate to them in the absence of such modification.

A common form of the modal alteration here alluded to is that induced by the immediate succession of the major and the minor (or the diatonic and the chromatic) forms of one and the same chord. (See fig. 88.)

271. The chromatic triad upon the supertonic of the scale should be succeeded by either (1) the tonic triad, direct or indirect (fig. 111 (*a*)), or to remove any possibility of a dominant modulation, (2) a chord containing the characteristic, and hence unaltered *subdominant* as, *e.g.*, a dominant discord (fig. 111 (*b*)), the third of the chord as augmented fourth to the tonic, and *quasi* leading-note to the dominant, proceeding to a resolution upon either the dominant or the subdominant of the original scale.

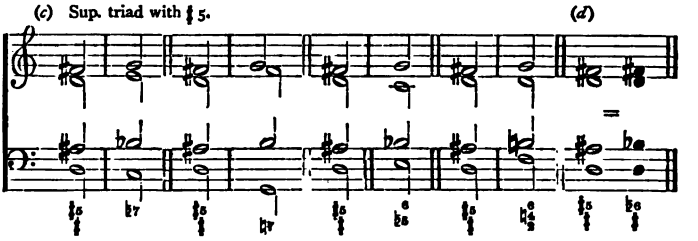
Fig. 111.



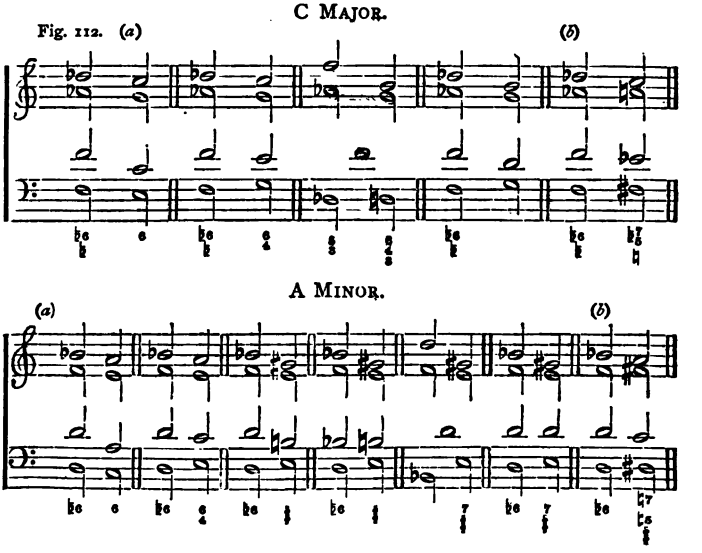
The chromatic modification (by way of augmentation) of the fifth of the chromatic triad upon the supertonic in nowise interferes with the succession of the combination by a characteristic (chromatic or diatonic) chord of the original key. (Fig. 111 (*c*).)

The ambiguity occasioned by the virtual identity of this combination with *another* augmented triad—viz., that upon the *minor seventh* of the scale, as seen to result from its enharmonic change, should be carefully noted by the student, and the exact nature of the ambiguity here alluded to may be more clearly realised by the

substitution (1) for the chord in question of its enharmonic equivalent (indicated in the figure by means of black notes), and (2) of the signature of the key of the minor seventh (in this case B♭) for that of the tonic (C). (Fig. 111 (*d*).)

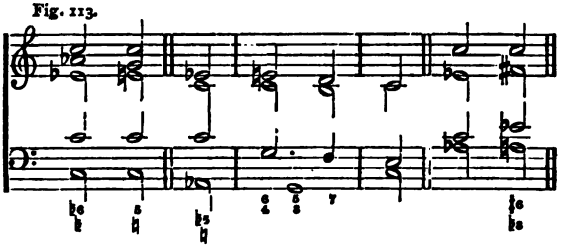


272. The chromatic (major) triad upon the minor second of the key is usually succeeded, when direct, by either some form of tonic or of dominant harmony. (Fig. 112 (*a*).) When inverted as a Neapolitan sixth, it may take likewise, among other progressions, a resolution upon a supertonic discord. (Fig. 112 (*b*).)



273. The chromatic triad upon the chromatically lowered sixth of the major key is commonly succeeded by some form of tonic harmony; often, as provocative of characteristic dominant harmony, by the vague and suggestive $\frac{6}{4}$. (Fig. 113.)

Fig. 113.



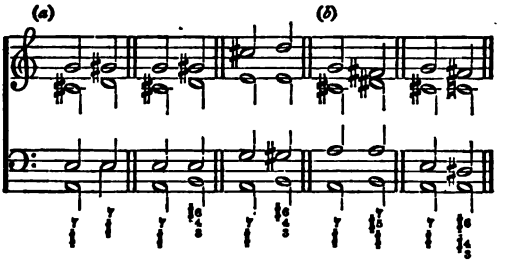
274. For the purpose of completely confirming the chromatic effect by an adherence to the original, and an avoidance and negation of the subdominant key, the chromatic seventh upon the tonic is ordinarily resolved upon either (1) a fundamental dominant dissonance (fig. 114 (*a*)), or, (2) as suggestive of complementary and key-confirming *dominant* effect, a chromatic supertonic dissonance (fig. 114 (*b*)); in the former case, the characteristic third and seventh proceeding conjunctly by ascent of respectively a diatonic and a chromatic semitone; in the latter, the third either rising a tone or falling a chromatic semitone, the seventh falling a diatonic semitone.

MAJOR.

Fig. 114. (*a*) (*b*) (*c*)

Tonic seventh with augmented fifth.

MINOR.



The chromatic modification (by way of augmentation) of the fifth of the chromatic tonic seventh, in nowise interferes with the resolution of the combination upon a characteristic (diatonic or chromatic) chord of the original key. (Fig. 114 (*c*).)

It should be noted how in each instance of exceptional tritonic resolution, comprised in fig. 114 (and the remark is applicable in the case of chromatic resolutions generally), one characteristic tritonic sound, by invariably receiving the progression proper thereto, proceeds normally towards an adequate resolution. Note also the effectual establishment of key combined with clear presentation of chromatic effect resulting from the consecutive tritones in the several resolutions, together with the involved succession *in the same part* of sounds pre-eminently characteristic of the different keys.

275. The chromatic ninth upon the tonic, which may be major or minor in either mode, may be resolved either (1) upon its own root (when it obeys conditions precisely similar to those regulating the resolution of the corresponding *dominant* discord) (fig. 115 (*a*)), or (2) it may be resolved upon either (*a*) a fundamental and dominant (Fig. 115 (*b*)), or a chromatic supertonic dissonance. (Fig. 115 (*c*).)

In the latter instances the interval of ninth may, (1) in the dominant resolution, (*a*) if minor, proceed conjunctly by ascent of a chromatic semitone; (*b*) if *major*, remain stationary; while in (2) the supertonic resolution, it may proceed by descent, if *minor*, of a diatonic

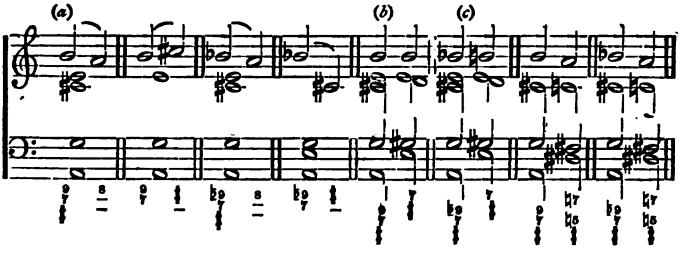
semitone; if major, of a *tone*—the embodied chromatic tonic seventh receiving, in both forms of resolution, its own proper progression.

MAJOR MODE.

Fig. 115. (*a*) (*Cf.* fig. 106 (*f*) (*k*). (*b*) (*c*)

MINOR MODE.

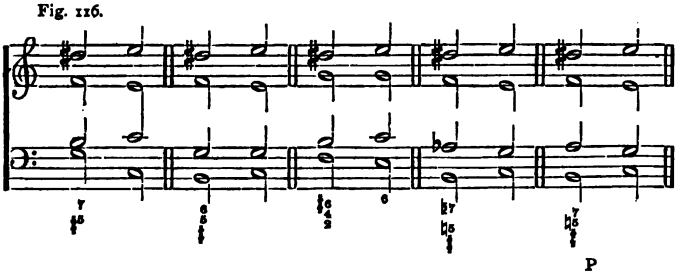
(*a*) (*b*) (*c*)



§ 2. Chromatic Alteration of Dominant Discords.

276. The forms respectively of dominant seventh and of dominant ninth, whether complete or derivative, containing a chromatically raised fifth (augmented), are re-

Fig. 116.



solved, like the diatonic, upon the chord of the tonic, with the exception that the raised fifth proceeds upwards to the third of this latter. (Fig. 116.)

277. The chord of the augmented or extreme sharp sixth, which, in its most frequent employment with a *supertonic* derivation, consists really in the form known as the *Italian* sixth (fig. 117) of the tonic, raised fourth and lowered sixth of the scale, and (fig. 118) as the *French* and (Fig. 119) the *German* sixth, of these combined with respectively the supertonic and the lowered third of the scale, is resolved obediently to the general laws of *dissonant*, as well as to the special laws of *chromatic* progression upon the nearest consonance, and, moreover, upon characteristic (whether fundamental or chromatic) harmony of the reigning key, either—viz., upon

THE ITALIAN SIXTH.

MAJOR.

Fig. 117. (*a*)

MINOR.

THE FRENCH SIXTH.

MAJOR.

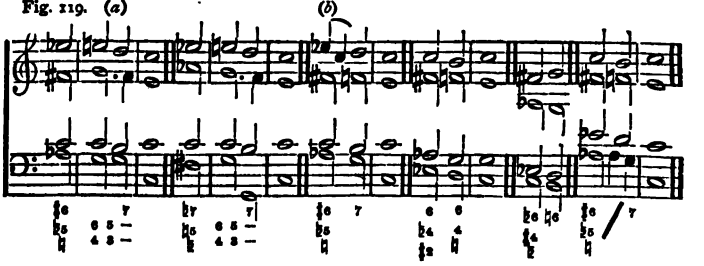
Fig. 118. (a) (b)

MINOR.

THE GERMAN SIXTH.

MAJOR.

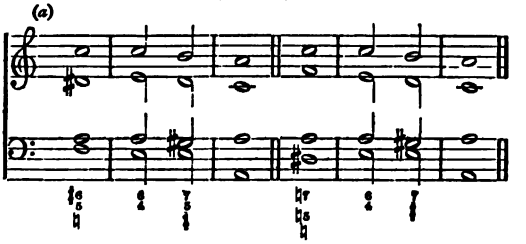
Fig. 119. (a) (b)



(c)

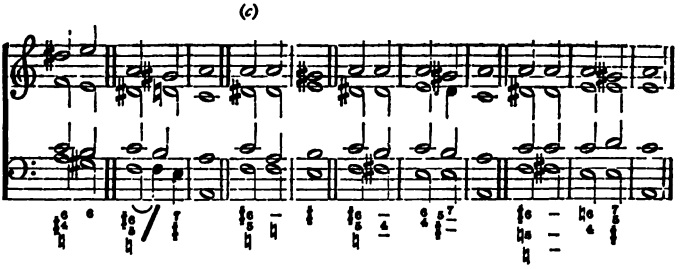
MINOR.

(a)



(b)

(c)



(1.) The tonic triad (*major* if *direct*, either major or minor if *inverted*). Figs. (*a*);
(2.) A dominant chord (figs. (*b*); or
(3.) A supertonic (chromatic) discord. (Figs. (*c*);)

the several sounds of the combination—whether this be based upon the supertonic or upon the dominant of the scale—receiving in each instance a progression appropriate thereto in the (statically dominant) discords of respectively the seventh or the ninth, were the characteristic depressed fifth from the root absent from the chord.

It will be seen that—save in one variety of resolution—such a succession does not permit of the progression of the sounds embracing the characteristic interval of the combination—that, viz., of the augmented sixth—by *similar* motion.

Fig. 117 to 119 present examples of the several resolutions specified in Art. 277 of the three forms of the chord under consideration, known respectively as the Italian, the French, and the German sixths, the first inversions of the fundamental form (compare p. 199, note) of which, as necessitating the presentation of the augmented sixth as a diminished third, are seldom available.

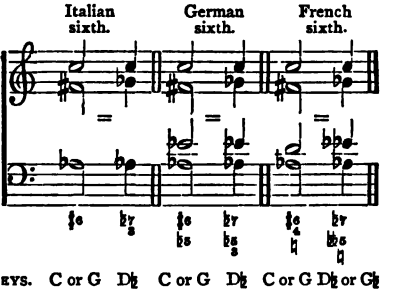
As involving the presentation of naked consecutive fifths, the unmodified resolution of the German sixth upon the dominant triad is, in general, to be avoided, although this form is occasionally to be found in the works of good writers, the ill effect of such consecutives being, it is thought, compensated by the variety and richness of the chords.

Owing to the equivocal character of its constitution, the chord of the augmented sixth forms, in its judicious employment, a powerful element of either (1) strong and effective colouring of the reigning key, or (2) of unexpected and piquant modulation or *change* of key. For it is manifest that, consisting as the combination statically does of a chord of, in the case of the Italian and German, a *pure*, in that of the French, a *chromatically modified*, dominant seventh, situate a *semitone above* the real and characteristic dominant seventh of the key* (see fig. 120), a

* As will be seen from fig. 120, the French sixth belongs as such to four distinct keys.

paramount necessity exists for its resolution into either (chromatically) the tonic or other characteristic chord of the reigning and original key, or (2) into that of which it constitutes the real dominant. In either case there results an unexpected sequence of ratios of the nature of a *surprise*, and hence one conveying a pleasurable impression to the ear.

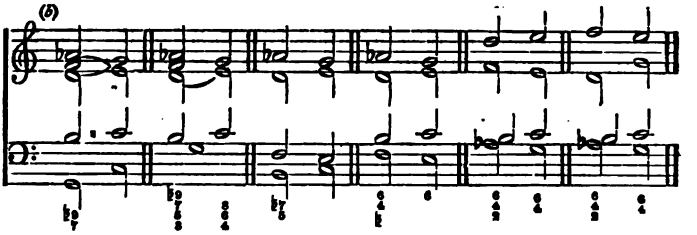
Fig. 120.



NOTE.—The several chords of the dominant seventh, to which those of the augmented sixth are respectively equivalent, with which, in fact, they are virtually, since statically identical, are indicated in the fig. by means of black notes.

278. With the exception that the chord upon which it is resolved is *major*, the resolution of the chromatically lowered chord of the dominant ninth, in its several forms as employed in the *major*, is precisely similar to its resolution when occurring as a diatonic chord in the minor mode. It very generally takes the derivative form of diminished seventh, sometimes, too, that of a diminished triad upon the supertonic. (Fig. 121.)

Fig. 121. (*Cf.* Fig. 106.)



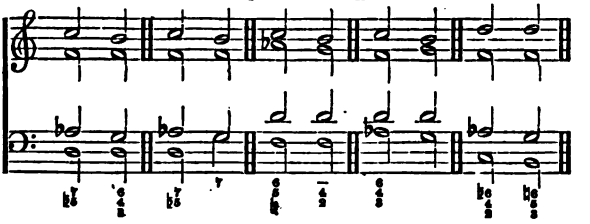
In fig. 121 (*b*) note the ascent of the radical fifth of the combination in order to avoid consecutive fourths with the extreme bass part.

§ 3. Chromatic Alterations of Supertonic Discords.

The several chromatic combinations resulting from the modification of chords based upon the supertonic of the scale receive resolutions upon the characteristic chords of either the tonic or the dominant of the key, as exhibited in the figs. of the present section. Since, as a consequence of the relation of dominant, borne by the supertonic to the fifth of the original key, the combinations in question virtually constitute diatonic or fundamental chords in, and are thus highly suggestive of, the key of the original dominant, there is (for the more effectual and unambiguous fixation of the *tonic* key), commonly presented in their complete resolution, a contextual alternation of tonic with fundamental dominant harmony. (Art. 266.)

279. The chromatic modification (by way of diminution) of the fifth of the secondary supertonic seventh in no way interferes with the resolution of the combination upon a characteristic (diatonic or chromatic) chord of the original key. (Fig. 122. *Cf.* fig. 108.)

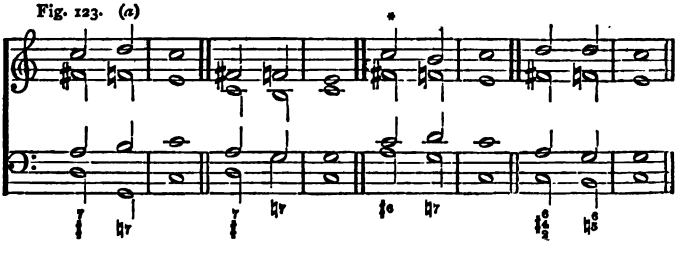
Fig. 122. Sec. seventh on supertonic with ♭5.



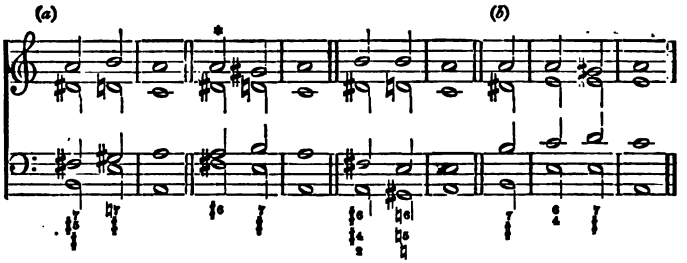
280. The chromatic chord of the supertonic seventh may be resolved upon either (1) a dominant discord (fig. 123 (*a*)) or (2) some form of tonic harmony (fig. 123 (*b*)); in the former case the third falling a chromatic, the seventh often a diatonic semitone; in the latter, the third rising a diatonic semitone, and the seventh normally remaining stationary.

MAJOR.

Fig. 123. (*a*)



MINOR.



In the *tonic* resolution the seventh, as the tonic of the key (and the same remark applies to the derivative form of diminished triad), may be effectively reinforced by way of duplication, and proceed disjunctly to any sound of the tonic triad. (See fig. *.)

The chromatic modification (by way of augmentation) of the fifth of the chromatic supertonic seventh in nowise interferes with the resolution of the combination upon a characteristic (chromatic or diatonic) chord of the original key. (Fig. 123 (*c*).)

Fig. 123 (*c*). Supertonic seventh with ♭5.

C Major.

281. The chromatic chord of the supertonic ninth, whether major or minor, may be resolved upon either (1) its own root (when it obeys precisely similar conditions to those regulating the corresponding *dominant* discord, *Cf.* figs. 106, 121 (*a*), (2) some form of dominant (fig. 124 (*a*)), or (3) tonic harmony. (Fig. 124 (*b*).)

MAJOR MODE.

Fig. 124. (*a*)

(*b*)

MINOR MODE.

(*a*)

(*b*)

In the latter instances the characteristic interval of ninth may (1) in the *dominant* resolution descend (*a*) when *major* a *tone*, (*b*) when *minor* a diatonic *semitone;* and (2) in the *tonic* resolution (*a*) when *major* remain *stationary*, (*b*) when *minor*, if resolved upon a *minor* chord, remain stationary, if resolved upon a major ascend a *chromatic* semitone.

The chromatic supertonic minor ninth very frequently appears in the form of its derivatives, the leading and the diminished sevenths upon the chromatically raised subdominant—the *minor* ninth to the root being often written, when employed in the *major* mode *Cf.* Art. 267, as a sharp second (♯2) above the tonic—and the resolution of the latter combination—a combination characteristic of modern music—upon inverted tonic harmony constitutes one of the most beautiful and effective of harmonic progressions.

CHAPTER XXIV.

Alterative Dissonance—Prolongation or Suspension.

282. GENERALLY, any harmonic succession based upon the laws of progression, whether consonant or dissonant, applicable to the case, may be modified by the substitution for any sound or sounds of any of its chords, of immediately contiguous (*i.e.*, *conjunct*) scale sounds, diatonic or chromatic, this substitution, as a rule, in nowise interfering with what would have constituted the conduct of the remaining portion of the progression had there been no such modification.

The figures contained in chaps. xxiv. and xxv. present instances of the modification by substitution in question.

283. This alteration by *substitution*, of which one species consists in the *prolongation* of some one or more of the normally essential sounds of one chord into a succeeding one of which they do not form an integral

portion—to which, in fact, they are *foreign*—and which is commonly (fig. 126), although not *invariably*, productive of *dissonance* (see fig. 126 (*a*)), takes within the species in question the several forms known as (1) suspension, (2) anticipation, (3) retardation.

§ 1. Suspension.

284. Suspension consists in the prolongation of a sound or sounds (whether consonant or dissonant, essential or unessential) of *one* combination into *another* of which they form no integral part, and thus the delay of, in this latter, some one or more of the constituent sounds proper thereto.

Thus, in the first example of fig. 126, the appearance of the 8ve to the root (D) of the second chord is delayed during half the measure by the prolongation or *suspension* of the unessential or extraneous E, while in the second example of the same figure the 8ve (D) and the third (F) to the root (D) of the second combination are so delayed.

Normally, the *essential* sounds of a combination are those most susceptible of suspension, although this mode of treatment is likewise extended to *passing* (chap. xxv.) and other *unessential* chord-tones.

285. It follows, from a consideration of the laws of dissonant progression, as determined by the nature of this attribute, that suspension involves the three following conditions—viz., (1) the appearance of the sound or sounds to be prolonged (before suspension) as (normally) *essential* or *fundamental* (*cf.* Art. 284), although not necessarily *consonant* in a combination. This is termed the *preparation* of the suspension, and should not occupy a shorter duration of time than does the suspension itself.

See this exemplified for both *consonant* and dissonant tones in the several examples of fig. 126; a simple illustration of the suspension of *consonant* tones of preparation being afforded in the first example of the figure wherein the suspending E receives due preparation as the *consonant third* of the first chord, while a similar illustration, as applied to *dissonant* tones, is presented in the *ninth* example of the same figure, wherein the suspending C receives due preparation as the *dissonant seventh* of the first chord.

An exception to the foregoing rule as to the length, relatively with that of suspension, of the note of preparation is found in slow time.

In the early stages of musical history, suspension invariably took the form known as *syncopation*, and this mode of presentation it still very generally assumes. For examples of syncopation, see fig. 126; also *sequence* and *counterpoint*.

(2.) The *percussion* or stroke of the dissonance itself —the *suspension, i.e.*—the sound now foreign or alien to those with which it is united, being commonly retained as *tied*, although sometimes actually *reiterated*. The percussion should occur on a *stronger* part or beat of the measure than does the resolution.

See this exemplified in the several examples of fig. 126, in each of which the note of suspension (suspending note) occurs upon the strong beat of the measure. For simple illustrations note the presentation of the suspending E and C in respectively the first and the ninth examples of fig. 126—as relatively with the resolving D and B of the same examples—accented.

It should be noted that the percussion is not necessarily invariably productive of actual *dissonance*, but may only induce the introduction of another form of *consonance*, as, *e.g.*, in the case of the suspending sixth. (See the examples marked (*a*) in fig. 126.)

(3.) The *resolution* effected by, normally, a progression, involving, of course, either an ascent or a descent to conjunct scale sounds of *one degree*. (Arts. 206, 256.)

See this exemplified in the several examples of fig. 126, in each of which resolution is effected by either the ascent or the descent of the *suspending* to the *adjacent* sound, which in each instance it respectively supplants, and whose presentation it severally suspends. For simple illustrations, note in the first and the ninth examples of fig. 126, the *descent* of the suspending E and C upon respectively the adjacent notes D and B, and in the *fourth* example of the same figure, the *ascent* of the suspending E upon the adjacent F of resolution.

The *rising* suspension is sometimes termed *retardation* (*Cf.* § 3).

Two main points of distinction between fundamental discords, and discords by suspension, deducible from the foregoing considerations, are seen to consist in (1) the necessity which exists in the case of the latter for *preparation*, and (2) their limitation to, relatively with their resolution, the *stronger* accents of the measure, as contrasted with (*a*) the absence of such necessity of preparation, with the primary discords, and (*b*) their unrestricted employment upon any part of the bar.

286. In no instance does the suspending note modify the movement proper to the other parts—their normal or fundamental progression, *i.e.*—had there been no suspension, and determined by the laws of either consonant or dissonant progression special to the case. (Art. 282. *Cf.* the several plain or fundamental progressions of fig. 91 (*d*), with the same modified by inserted suspensions contained in fig. 126 I.) It should be particularly observed that the suspending note must be succeeded by the note which it supplants or suspends, and in the same part. (*Cf.* Art. 285 (3).)

Since, in all cases, the suspending note stands for some essential sound of a chord whose appearance it delays, it follows that the nature of the modification of a combination, occasioned by the introduction thereinto of a regular suspension, is ordinarily most effectually determinable by an inspection of the chord of *resolution*.

287. Any note or notes whatever, whether consonant

or dissonant, of a combination, and in any part, may be *suspended.** (*Cf.* fig. 126 I. II.)

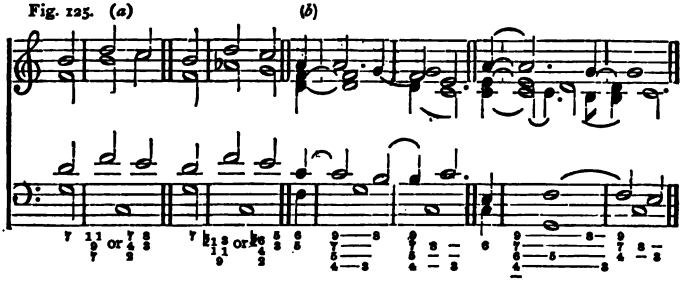
It follows from the foregoing that any of the constituent notes of a combination may become a *suspending* note or a discord by *suspension.*

288. Suspensions may be employed in either the major or the minor mode, and consecutively to any extent.

289. Suspensions may be either of diatonic or of chromatic sounds in a combination or of both.

290. Suspensions may be either *single* (*i.e.*, of *one* sound), or double, triple, quadruple, &c. (*i.e.*, they may be employed simultaneously in any number of parts).

Fig. 125. (*a*) (*b*)



NOTE.—The *first* examples in fig. 125 (*a*) (*b*) present instances of the combinations known as chords of the eleventh, the *second* of chords of the thirteenth. See also fig. 126 (*g*), and *Cf.* § 1 (*c*) of respectively chaps. xxi. and xxii.

* Although, by reason of their function as severally *suspending* or *delaying* the appearance of some essential sound of the combination into which they are introduced, the term *suspending*, as applied to the dissonant notes now under consideration, is more accurately expressive than is the term *suspended;* the former designation denoting, *strictly*, the extraneous, unessential, *delaying* notes of prolongation, the latter those which, as *delayed*, are inherent or proper to the essential formation of a chord; still, since both terms are very generally employed as convertible, they will be so used, as occasion serves, in the present work.

The whole of the sounds of a chord, with the exception of *one*, may be suspended (See fig. 126 (*b*)); suspension of all amounting, of course, to a mere *repetition*. In this case the suspending chord may assume, in its *resolution*, a different *position* or mode of *selection* or of *distribution* than that taken upon the *suspension*. (See fig. 125 (*a*) and fig. 126 (*b*).)

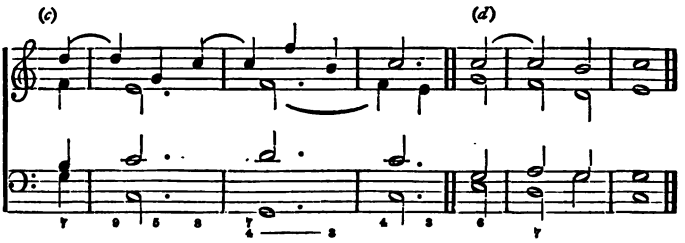
291. Combined suspensions may involve resolution by either ascent, descent, or an admixture of these. The *rising* suspension is more frequently employed in the *combined* than in the *single* form. (Fig. 126.)

292. For the attainment of variety, and in order to secure unity and continuity of structure, suspensions may be resolved *successively* instead of *simultaneously*. (Fig. 125 (*b*).)

Thus examples in fig. 126 I. may be modified, as at fig. 125 (*b*).

293. As affording material for a suitable and effective diversification, the licenses resorted to in the irregular resolution of *essential* discords, are equally applicable to those by *suspension*. Thus:

(1.) A suspending note may proceed, prior to resolution, to another note (not occurring elsewhere during the suspension) of its harmony. (Fig. 125 (*c*).)



The student should note the enriching effect resulting from the use of what has been appropriately termed *secondary* harmony,

whether consonant or dissonant, and of which fig. 125 (*c*) affords an example. Quick succession conveying to the ear very much the effect of combination (Art. 174); the impression created by the employment of secondary harmony is that of an *extension* in any given instance of *the actual number of parts.* As constituting a very effective resource in the hands of the composer, the device in question is often employed in any number and even the whole of the parts in which a piece is displayed.

(2.) A suspending note may be resolved upon a *different* chord from that over which it is suspended, or whose complete presentation it suspends, provided the note of resolution, that, viz., suspended or delayed, would have been (in the absence of such suspension) common to both. (Fig. 125 (*d*).)

294. The suspending and the suspended notes in a combination (or their 8ves) must not be combined together, and, consequently, heard at the same time.

Exceptions to this rule are found, however, (1) in the case of the leading seventh to the root, when the root is in the bass. (See the examples marked (*c*) in fig. 126.) (2) In the case of the suspending ninth to the root, whether in a direct or an inverted combination. (See the examples marked (*d*) in fig. 126. (3) In the case of the suspending ninth to the *third* or to the fifth of the root (the fourth or the sixth to the root itself, *i.e.*), when such third or fifth is either in the bass or in an upper part. (See the exercises marked (*e*) in fig. 126.)

It is not well, generally, in writing for *voices*, to double the root when this is suspended in the bass. (Fig. 126 I. (1) (*f*).) In each of the cases specified in (2) and (3), the suspending note must be removed by the distance of at least an octave from the note suspended.

295. Suspensions should not be used to cover or conceal bad or objectionable progressions. What is suspended must be, in itself, in accordance with the laws of progression (*Cf.* Art. 182). There is special

danger of hidden consecutives in an unpractised use of suspensions.

Thus the progressions contained in fig. 125 (*e*), (*f*), (*g*), since respectively involving (upon the elimination of the suspensions) hidden fifths and 8ves, are objectionable.

All passages involving suspension may, and should invariably, be tested by the elimination of these and their consequent reduction, in each instance, to a fundamental progression of plain (*i.e.*, unvaried or primary) chords. (*Cf.* Art. 286.)

This process, too, will reveal the invaluable fund of resource which the operation affords for obtaining a musical diversification, and of its welding power in securing continuity of structure, and thus the immediate dependence of *florid* or *ornate* upon *plain* and *simple* harmony. Instances should be sought of the use made by the great masters of the practice of suspension in the reiterated presentation of a progression or theme.

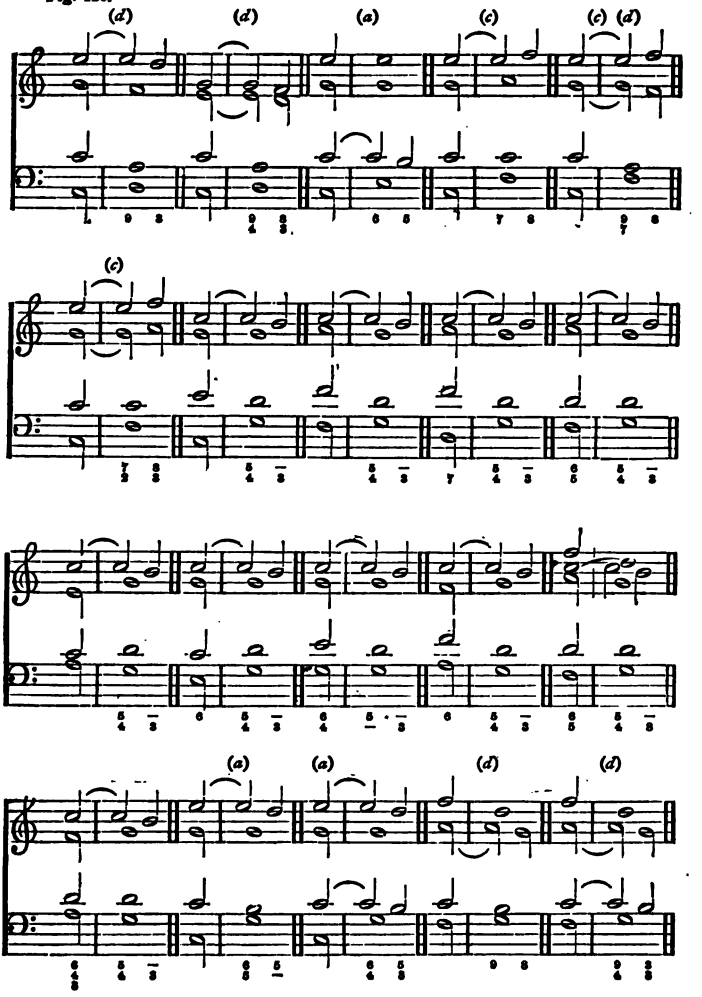
Fig. 126 affords examples of suspension upon, at I., *consonant*, and at II., *dissonant* combinations, in illustration of the several articles of the present chapter. In connection with this figure it should be noted that discords by suspension commonly receive, analogously with other combinations, and in accordance with the relation of their several constituent tones with the bass or lowest—as indicated in the system of Thorough Bass (*Cf.* Art. 169, and Appendix *Figured Bass*)—a *numerical* designation as, *e.g.*—the chord of the fifth and fourth ($\frac{5}{4}$), of the ninth, seventh, and third ($\frac{9}{7}$), &c.

At (*g*) are presented instances of the combinations known respectively as chords of the eleventh and the thirteenth. (*Cf.* § 1 (*c*) of respectively chaps. xxi. and xxii., and fig. 125 (*a*) (*b*), note.)

I.—SUSPENSIONS UPON CONSONANT COMBINATIONS.

1. The Triad.

Fig. 126.



(a)
(b) (c) (d) (e)
(a)
(d)

(d) (d) (d) (d)
(c) (c) (c) (g) (b) (c) (d) (g) (d) (g)
(b) (d) (g) (b) (d) (a) (a) (g)
(b) (c) (g) (b) (c) (d) (g) (c) (d) (g) (f)

2. FIRST INVERSION OF THE TRIAD.

3. Second Inversion of the Triad.

II.—SUSPENSIONS UPON DISSONANT COMBINATIONS.

(c)
(c)
(a)
(d)
(g)
(d)
(g)

§ 2. Anticipation.

296. Anticipation consists in the premature introduction into a combination of one or more sounds of a *following chord*, combinations so modified then constituting, and hence receiving a corresponding treatment, by way of *prolongation*, with *suspensions*. (Fig. 127.)

Fig. 127. KIRNBERGER.

Since obviously inessential in at least *one*, viz., the *first*, of the two following chords, throughout whose duration they are prolonged, notes of anticipation consist, in reality, of a species of suspending *passing* notes. (Chap. XXV.)

§ 3. Retardation.

297. The term retardation, sometimes applied to suspension by *ascent* (Art. 285 (3)), is also used to designate an exceptional class of suspensions (often termed *driving-notes* (Art. 167), and admitting of an irregular resolution by means of *disjunct* progression or *skip*.

The employment of the irregular by resolved, and hence exceptional suspensions, known as driving-notes, together with those (*a*) of either irregular or (*b*) entirely devoid of *preparation*, and towards the adoption of which there is a growing tendency in modern music, should be, in all cases, rigidly regulated by their mode of application in the works of the great masters. As presenting instances of deviation from the normal treatment of suspension, they are often productive of very striking effects.

CHAPTER XXV.

Laws of Dissonant Progression (continued)—Alterative Dissonance—Transition or Passage.

A STILL further means of obtaining diversification, and of imparting continuity of sequence in musical composition, beyond that resulting from the employment of prolongation or suspension (chap. xxiv.), is afforded in the use of the substitutional notes, variously termed unessential discords, discords by transition and passing-notes.

§ 1. Passing-Notes.

298. Passing-notes may be defined as *unessential* notes (*i.e.*, notes not forming an essential part of the harmony in which they occur) introduced into a chord by way of substitution for some one or more of the sounds essential thereto—and also for purposes of continuous *connection*, transit, or *passage* between two chords—without preparation.

Thus the plain fundamental progressions presented in fig. 91 (*d*) may be modified by the introduction of passing-notes, either *accented*, as at fig. 128 (*a*), or *unaccented*, as at (*b*).

NOTE.—In the following and the several other figures of the present chapter, the notes of passage are indicated by means of appended numerals. Simple accented passing-notes being denoted by the numeral (1);

Simple unaccented passing-notes by (2);
Extended passing-notes from below by (3);
„ „ „ above „ (4);
Simple auxiliary notes from below by (5);
„ „ „ above „ (6);
Extended „ „ below by (7);
„ „ „ above „ (8);

The relevance of the several terms by which notes of passage are designated is apparent from the definition.

Fig. 128. (*a*)

BACH'S "48 Fugues," No. 1. MOZART.

(*b*)

HANDEL.
(Amen "Messiah").

299. As pre-eminently notes of *transit* or *passage* between two essential, whether consonant or dissonant sounds, passing-notes should proceed without break (*i.e.*, *conjunctly*, or by *degree*) from one essential note to another. (See figs.) A variety is, however, employed which may be approached *or* quitted *disjunctly*, or by *skip*. To this latter class the term *extended* passing-notes, either from *above* (fig. 128 (*c*)) or *below* (fig. (*d*)), in accordance with their *direction*, has been appropriately applied.

300. Passing-notes may be either *accented* or *unaccented*—*i.e.*, they may be employed upon either a *strong* or a *weak* portion of a measure or beat. (*Cf.* fig. 128, 129 (*a*) and (*b*)), in the former of which the several passing-notes (indicated by the numeral 1) are for the most part *accented*, in the latter (indicated by the numeral 2) *unaccented*.

Unaccented passing-notes, which are of more frequent occurrence, serve, as *following* the relatively *strongly accented* essential notes with which they are connected, to secure continuity of progression —a smooth and varied melodic flow—often grace and finish. Accented passing-notes, occurring as they do at the *strong* part of a measure or beat, and *preceding* their relatively more *weakly* accented essential, commonly impart—by the usurpation, as it were, of the seat of these—boldness, animation, piquancy, and vigour of effect.

301. As affording continuity to, by welding together the contents of passages of plain harmony, passing-notes may, it is obvious, (1) be of any duration, (2) occur in any part of a chord, (3) occur simultaneously in any number of parts, and this (4) either by similar, oblique, or contrary motion, whether single or combined. (See fig. 128 (*b*).)

It follows from the preceding (2) that a transitional note may be resolved upon either its *own* or a *different* chord—upon the combination in which it occurs *i.e.*, or upon the following.

Great effects are produced, and the conversational or dramatic interest resulting from the attainment of individuality of parts secured in a pre-eminent degree as a result of the combined use of passing-notes by similar and contrary motion. (*Cf.* fig. 128 (*a*), (*b*), 129 (*c*), and chap. xxxiii.)

In the replacement by passing-notes of an essential sound or part of a sound of a chord, there will commonly occur a more or less regular alternation of essential and unessential notes—of passing notes, *i.e.*, and notes proper to the harmony. Thus two or more passing-notes may be used *consecutively* in the same part; but in accordance with their function as strictly notes of *progression*, these should move in the *same direction*, either, *i.e.*, upwards or downwards. (*Cf.* bars 2 and 3 of the second example in fig. 128 (*b*), in the latter of which consecutive passing-notes proceeding in the same direction occur in all the parts.) It is this *progressional* character of passing-notes which serves to distinguish them from the ornamental variety known as *auxiliary* (sometimes *adjunct*) notes, and comprising instances of *unessential* notes, either respectively rising or falling from, and subsequently returning to the *same* essential note. (*Cf.* the notes marked 1, 2, 3, 4,

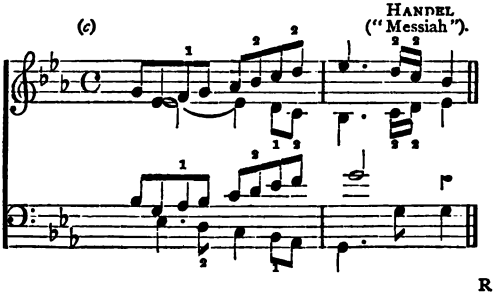
in the several examples of the present chapter, with those marked 5, 6, 7, 8.)

The consecutive use of passing-notes in one same part is not necessarily limited to two or three. A common instance of a more extended succession occurs in the scale or running passage (see fig. 129) formed upon a chord, in which case, however, the tonality or key of the scale, and its accompanying chord, must be identical. This usage of transitional notes affords a strong analogy to the effect known as the pedal or pedal-point (see chap. xxvi.), of which, indeed, as presenting, instead of a single, a *combination* of holding notes, it constitutes a species of elaboration or development.

Since passing-notes may be combined in any number of parts, it follows that there may be passing-*chords*. In addition to those employed upon a pedal, instances of these combinations are presented in the multiform scale passages by contrary motion of such frequent occurrence in musical composition. It is an invariable rule with such passages, which are found in a very great variety, and more or less fully accompanied (with thirds, sixths, or even complete triads), that the contrary motion may be sustained indefinitely until the attainment of an essential note or chord, such contrary motion, moreover, serving more conspicuously to throw out the characteristic effect produced by transient crudities and harshness of progression. (Fig. 129 (*c*).)

It should be remembered that many, in themselves, unjustifiable combinations are rendered effective, or are, at the least, excused by their employment *in quick time*.

Combined sequences of passing-notes, when moving alone and independently of their allied *holding*-notes, should be regulated with regard to one another, and without reference to such holding-notes by the laws of harmonic progression.



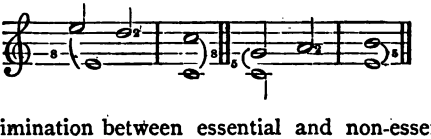
(*d*) BELLINI

302. Passing-notes may be either (1) diatonic or (2) chromatic. A chromatic passing-note is ordinarily preceded or followed by its corresponding diatonic sound.

303. Passing-notes, like suspensions, must not be employed to screen or veil forbidden progressions. The plain or fundamental passage employed in any instance for ornate elaboration, by means of transitional discords, must itself be, in structure, pure and irreproachable. (*Cf.* Art. 295.)

Thus, a progression of sounds, occurring upon successive accented portions of the bar involving consecutives, is not justified (except with a *slow* rate of movement where the intervening passing-notes have time to assert their own effect) by the insertion of intermediate unessential notes. (See fig. 130.)

Fig. 130.



The discrimination between essential and non-essential notes is often difficult, if not impossible, by a reference solely to the *melody* in which they occur. By an inspection of the accompanying *harmony*, however, their due classification, as respectively essential or unessential, diatonic or chromatic, may be at once effected.

The importance of the alternation of (relatively with the tonic) the consonant and dissonant sounds constituting the *scale progression* (Art. 301), as forming the basis of all music, is well exemplified in the general and extensive use of passing-notes. As serving to frame continuous successions of scale sounds, they are

employed with the utmost frequency, and in the simplest and most familiar orders of composition.

§ 2. Auxiliary Notes.

Passing-notes proper, whether of the conjunct or disjunct variety (Art. 299), constitute, as we have seen, strictly tones of *progression*, filling up the distance between two essential sounds of a chord, one of their main functions being suitably to diversify, by imparting thereto either a flowing and graceful, or a vigorous and bold character, a passage of plain and essential scale combinations. It is not, however, always possible, nor even desirable, to make use of these, as it were, *chain* notes of rigid progression and connection. In this case, recourse is sometimes had to a variety of unessential notes, which cannot, perhaps, be better described than as *irregular passing-notes*, and which, from their great utility in, and adaptability to, the construction of characteristic and diversified *figures* (Art. 105)—passages, *i.e.*, easy of recognition, and, hence, suitable for imitation—have been appropriately termed *auxiliary* notes.

304. An auxiliary note may be defined as an unessential note of embellishment, which, although removed by one degree from an essential, is, nevertheless, not strictly *progressional* in character—does not, *i.e.*, strictly fill up the distance or *pass between* two principal notes. In the varieties known as *extended* (Art. 307), they are either approachable or quittable (but normally not *both*) *disjunctly* or by *skip*.

305. Auxiliary notes admit of a fourfold classification, as

(1.) Simple auxiliary notes from below.
(2.) „ „ „ above.
(3.) Extended „ „ below.
(4) „ „ „ above.

306. Auxiliary notes from *below* are commonly removed from the essential to which they are prefixed—except, perhaps, when such essential note is the *third* of a chord, when the nature of the conjunct interval

appears to be *optional*—by the interval of a *semitone* (fig. 131 (*a*)); those from *above*, by either a *tone* or a semitone, according to their scale position. (Fig. 131 (*b*).)

Fig. 131. (*a*) MOZART.

(*b*) HANDEL ("Messiah").

307. Extended auxiliaries from *below* are constituted by disjunct progression to the note *below* (fig. 132 (*a*)); those from *above*, to the note *above* (fig. 132 (*b*)) the essential, to which they are severally prefixed.

Fig. 132. (*a*) BELLINI.

308. An auxiliary may be interpolated between a passing or another auxiliary note, and the essential note to which such passing or auxiliary note would naturally lead. (Fig. 132 (*c*).)

Auxiliary notes may be used simultaneously, by way of combination. (*Cf.* fig. 131 (*a*).)

309. It follows from the preceding that (1) two auxiliaries may succeed each other, and (2) an unessential note may be either approached or quitted disjunctly, but (normally) not both. (*Cf.* § 3.)

With the exceptions explained in § 3 of the present chapter, an unessential note is invariably *conjunctly* related to an essential in *one* direction.

Familiar examples of the auxiliary note are presented in (1) the *appoggiatura* (fig. 132 (*b*)), and (2) the *acciaccatura* (fig. 132 (*d*)). (See Appendix. Graces or ornaments of melody), the former—written either in small or in ordinary-sized notes—constituting an auxiliary to an essential; the latter an auxiliary to either an essential note or an appoggiatura. These several ornaments sometimes, however, take the form of passing-notes *proper*.

It should be added that the several tonal embellishments known as *graces* (see Appendix) are constituted by an alternation of essential with unessential notes.

Auxiliary notes are essentially notes of embellishment. In conjunction with the more regular variety of notes of passage, they are of paramount importance as an element in the formation of characteristic melodial *figures* (Art. 105), and, consequently, in the development, by way of *imitation*, which enters so prominently into the integral and vital substance of all musical composition worthy of the name. (See Chap. XXXIV.)

Since the several varieties of passing-notes may be combined in any order and to any extent, it is not possible to lay down anything like an exhaustive collection of specific rules for their regulation and conduct. It is sufficient to point the student to the application of the main *principles* involved, as exemplified in the works of good writers.

§ 3. Irregular Substitution.

In addition to those created by the more regular processes known respectively as suspension and passage, special and striking effects of emphasis are sometimes produced as the result of what may be conveniently termed *irregular substitution*, and consisting in the replacement of one or more of the essential sounds of a chord by other and extraneous sounds taking a progression not referable to the laws of either of the cardinal modes of treatment just specified. All such exceptional cases must, however, be in accordance with the usage, and hence supported by the authority, of good writers. See fig. 133, in the first example of which the D, essential to, although absent from, the second or *dominant* chord, is represented by the extraneous E (the third of the *tonic* chord) of substitution. Other similar examples which, moreover, together with the several other illustrations contained in the present chapter, afford instances of the combination termed by some theorists the chord of the thirteenth (*Cf.* chaps. xxi. and xxii. § 1 (*c*)), occur at the several asterisks of the figure.

It is in the nature of substitution, whatever form this process

may assume, to intensify and render pre-eminently emphatic the sound of replacement.

Fig. 133. C MAJOR. G MAJOR.

NOTE.—The essential sounds *omitted* from the several chords in fig. 133 are indicated by means of black notes following those of replacement.

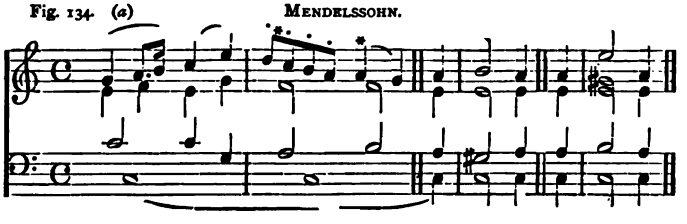
CHAPTER XXVI.

The Pedal or Organ Point.

AN extension of the principle regulating the processes known respectively as suspension and passage is found in the use of the *pedal, sustained,* or *holding* tone.

310. A pedal point consists of a note sustained during the simultaneous progression of sounds, occupying with itself various (whether essential or unessential, consonant or dissonant) harmonic relations, and may be of any required duration. (Fig. 134 (*b*) (*c*) (*d*).) When limited to one or two bars, it is termed a *holding-note* (fig. (*a*)).

Fig. 134. (*a*) MENDELSSOHN.



(*b*)

BACH
("48 Fugues," No. 1).

(*c*)

BACH
("Prelude," No. 12).

Although originally constituted of a *single* sustained sound, the pedal not unfrequently takes the form of a constantly *recurring* or *reiterated* sound. A familiar example occurs in Handel's "Why do the Nations" (Messiah).

311. The extended pedal or pedal proper is employed upon sounds which, admitting respectively of the superposition thereupon of *primary* or *fundamental*, consonant or dissonant combinations, are most characteristic and determinative of the scale, those, viz., of the tonic (fig. 134 (*b*)) and the dominant (fig. (*c*)). Instances are to be found, too, of the use of the pedal upon the subdominant (fig. (*d*)). The brief holding-note, although most usual upon its *fundamental* sound, is possible upon *any* degree of the scale (fig. (*a*)).

A common example of the holding-note is that afforded in the conjunction of a scale sound with a progression of single or of combined passing-notes. (*Cf.* fig. 129 (*c*).)

The fact that prolongation or sustenation imparts to the tone sustained (by persistently constraining the attention of the ear to, as it were, its encasement in a variety of *settings*—its immobility amidst the most varied tonal conjunctions) a more exalted emphasis, affords a sufficient reason for the frequent selection of the scale tonic and dominant as the seat of the pedal.

As might, from its nature and constitution, be expected, the pedal proper is commonly and most effectively employed after an extended course of *modulation* or *change of key* (chap. xxviii.), as, *e.g.*, at the close of whole movements, such as the fugue (chap. xxxvi.) in order, by the protracted and exclusive concentration of

the ear upon combinations fundamental to, and hence characteristic of, the scale, the more effectually to reinstate and confirm the impression of the original or principal key. (Art. 36.)

For the same purpose, also, it most frequently—in this connection almost invariably—occurs in the highly exposed bass or lowest part (Art. 171), a mode of employment probably originating with, and suggested by, the pedal-board of the organ. Hence, too, the denomination of the device. When occurring in any other than the bass, it is termed inverted, also agreeably with the locality of the part in which it is found, an inner or an upper pedal. Familiar examples of the upper and the inner (reiterated and sustained) pedal occur in the Hallelujah Chorus of Handel's "Messiah."

The pedal really consists, with regard to the whole movement in which it is found, of *one long, varied chord.* Hence the harmonies proper to it are either (1) its own; (2) those of its most intimately related sounds, or (3) easily resolving into these, and may involve suspension and notes of passage, diatonic or chromatic, to any extent. If modulation be resorted to, this should take place in order that the pedal-sound may retain its function as either *tonic* or *dominant;* (1) in the case of the *tonic* pedal, into the key of the subdominant (of which it is the dominant); (2) in the case of the *dominant* pedal, into the key of the dominant (of which this is the tonic); (3) in the case of the very exceptional *subdominant* pedal, which is commonly transformed by modulation into a new tonic, into the key of the *original* tonic (its dominant). (See the context of fig. 134 (*d*) in the chorus "All we like Sheep" from Handel's "Messiah.") The last chord upon a pedal, in which the pedal note must be *essential,* is often effectively employed as a chord of modulation. The attention of the student is directed to the instances of the combinations, termed by some theorists chords of the 11th and 13th, afforded at the asterisks in fig. 134. (*Cf.* chaps. xxi. and xxii. § 1 (*c*); xxv. § 3.

312. Extraneous or unessential harmonies may be used at the commencement, but never at the termination, of a pedal note. The closing harmony, whether consonant or dissonant, must invariably be that of the note sustained, *i.e.,* wherein the pedal-note is *essential* (see figs.)

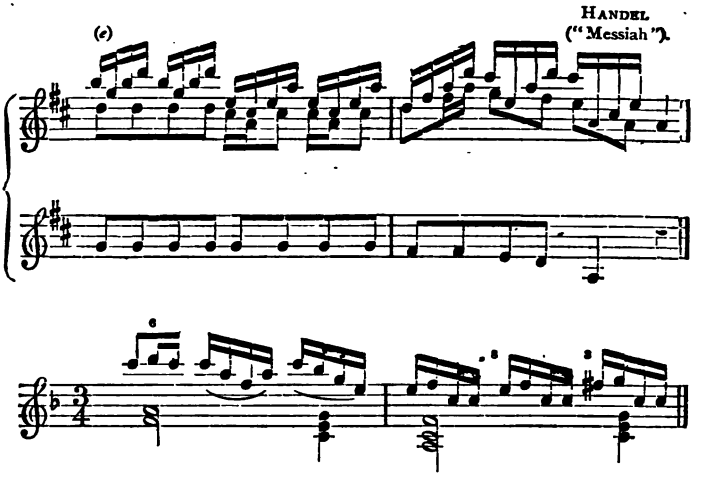
The pedal is not confined to presentation in a single or, indeed,

in *any* individual part. (*Cf.* Art. 311.) It may be reinforced by octave duplication in more than one part, thus forming a *double* pedal, although this designation is commonly applied to the combination of the tonic and dominant occasionally found in pastoral movements, and which would be more accurately styled a *combined* pedal. Gounod has even employed the *triple* pedal upon the tonic, dominant and supertonic of the scale.

It is a characteristic of the pedal that during its sustenation the harmonic progression may be carried on independently of and without reference to this. In every instance of combination upon a pedal, one of two cases must, it is obvious, occur. Either the pedal note is essential, or it is unessential in a given chord. When essential, it becomes and is treated as the bass of such chord; but when it is unessential, the part next above (or in the case of an upper pedal, the *lowest* part) assumes the function of, and is regarded as the bass, and as though the pedal sound were entirely absent. It follows from this that an upper or an inner pedal in nowise interferes with the progression proper to the lowest part of the harmony.

The modern pedal-point constitutes a scientific development of the primitive drone bass necessitated by the mode of construction of certain varieties of the rude instruments of early times, as, *e.g.*, the crwth, vielle, &c., and which receive a modern embodiment in the bagpipe and the hurdy-gurdy.

313. Instances of a species of extended development of respectively (1) the holding-note and (2) the pedal proper are afforded in the several forms known as the *Arpeggio* (fig. 134 (*e*)) and *Ground Bass;* the former (known sometimes as *broken* harmony) consisting in the *successive*, in lieu of the *simultaneous*, presentation of the constituent tones of a plain chord or chordal progression—such tones admitting, moreover, of a discretionary interspersion of auxiliary and other notes of embellishment,—the latter in the repetition of a single bass theme, subject, or phrase (Art. 103), with as varied as possible a diversification of either the same fundamental or different accompaniments.



A familiar example of the ground bass is to be found in Handel's chorus "To Song and Dance" (Samson).

It should be noted that, as in the case of, respectively, suspensions and notes of passage, the arpeggio must not be used to cover or conceal faulty or objectionable progressions. Moreover, it should be analogously tested by the reduction of the passage diversified to its bare fundamental chords.

CHAPTER XXVII.

The Cadence.

THE disposition of a movement or piece into its structural sections, periods, and other rhythmical divisions, although commonly deducible from an inspection of the unaccompanied *melody*, is most easily and certainly ascertainable from a consideration of its *harmonic cadences*. Cadences serve as landmarks revealing the structure of a piece as compounded of distinct and separable divisions, together with their relation (tonally) to, and, consequently, pertinence and signification in this, and hence facilitating its precise rhythmical analysis. (*Cf.* Art. 99, 101.)

314. By a cadence is signified in music the close—constituted commonly of the two last chords of this—of a section or a period. (See fig. 135.)

As in a degree analogous to the pause in reading (indicated ordinarily by the signs of punctuation), it is evident, since this pause may be more or less complete, that cadences admit of a classification into several varieties. Cadential progressions, in fact, aid materially in what may be termed *musical punctuation.* Hence the necessity of a scrutinising regulation of cadences for the avoidance of inconsequence and monotony, and the acquisition of a well-balanced contrast, especially in short compositions, such as the chant, psalm tune, &c., and which are frequently and appropriately the first essayed by the student. The beginner in musical composition cannot be too strongly cautioned against the grave error of either *tautology* and *monotony*, or an *ill-constructed* progression of cadence.

The classification of cadences is regulated by the degree in which they convey the impression of repose or finality, as contrasted with a power of suggestion to the ear of something to follow—a continuation of the music.

315. There are four principal varieties of this formula ordinarily known as I. The Perfect, II. The Plagal, III. The Imperfect, and IV. The Interrupted Cadence.

I. The perfect or authentic cadence or full close, as in character the most final (*cf.* Art. 257), and leading the ear to expect no continuation of the music, is employed invariably as the last in a composition, frequently, too, as terminal of some of its more important periods. It is constituted of the (invariably *major*) dominant triad (fig. 135 (*a*)) (more fully the chord of the dominant seventh) (fig. (*b*)), succeeded by that of the tonic, whose quality as major or minor is determined by the character of the reigning mode. The tonic triad in the minor mode is occasionally made major in this connection. (*Cf.* Art. 240.)

As essentially characteristic of the scale, the following—in

order the more effectually to establish this—are employed as antepenultimate chords with the perfect cadence—viz., (*a*) the second inversion of the tonic triad (fig. (*d*) and 93 (*g*), (*b*) the triad of the subdominant (fig. (*e*)), (*c*) the triad (fig. (*f*)) and (*d*) the first inversion of the secondary seventh (fig. (*g*)) upon the supertonic.

For the purpose of adequately asserting its effect, the employment of the full close should be regulated by the following conditions :—

(1) Its constituent chords should be arranged in *direct* or *fundamental* position, an exception, however, being afforded in the relatively weakened form involving the second inversion of the dominant chord (fig. (*c*)). (*Cf.* pp. 186, 208, and example 105 (*b*) (*d*).)

(2) Its final (tonic) chord should be found upon an *accented* portion of the bar, normally and most effectively at its *commencement.*

(3) The most satisfactory impression of finality is also obtained by the respective relegation of the leading-note and of the 8ve to the root in the consecutive chords to the highest part of the harmony, the progression of the *leading* being by ascent to the *key* note. (For a more detailed exposition of the constitution of the perfect cadence, *cf.* p. 172 and Art. 229.)

II. The plagal, great, or church cadence, constituted in the succession of the triad of the subdominant (with sometimes an added sixth (*cf.* § 2 of Chaps. xxi., xxii.)) by that of the tonic, and of universal employment in church music, is commonly used subsequently to the perfect cadence proper, and—by its powerful assertion of *subdominant* effect—as a final endorsement of the key in which a composition is cast. Its conditions, with regard to chord position and accent, are identical with those of the more normal perfect cadence. (Fig. 135 (*h*).)

The perfect cadence is essentially *tonic*, the plagal essentially *modic*, in character, its chords varying respectively as major and minor with the mode. With the old writers, however, the final tonic chord in the *minor* mode was as more conclusive and

reposeful, in fact more perfectly *consonant* in character, when not altogether omitted commonly rendered as *major*—the ear being judge—an effect still frequently employed, and known as the *Tierce de Picardie* or Picardy third. (Fig. 135 (*i*), Art. 240).)*

The conversion of mode here adverted to probably originated in the attempt to prevent the cacophony of reverberating harmonics found to result in a cathedral or other large building from the presence of the non-harmonic minor third to the root with its attendant superposition of alien over-tones—an attempt rendered more than successful in the substitution of strengthening because reduplicating harmonics to the prime effected by the introduction of its major third.

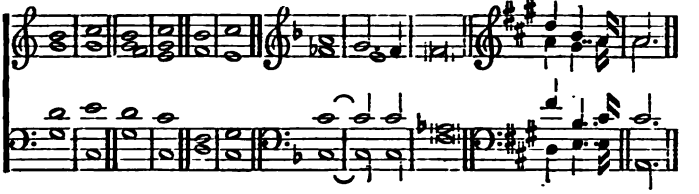
III. The imperfect cadence or half close.

As the perfect cadence may be thought to present some analogy to the period or full stop, so may the imperfect, which, from its property of suggesting to the ear *expectancy*, might be termed the *continuative* or *suggestive* cadence, be compared with the semicolon or the comma of verbal language. It is employed in the termination of sections occurring during the course of a movement, when no special effect of finality is desired, imposes no restriction as to *accent*, and admits of very considerable diversification with respect to *form*. The commonest case is that in which the *dominant* is the final chord. The following are some of the most usual progressions taken :—

(1) A succession of the chords of respectively (*a*) the tonic (fig. (*j*)) or (*b*) its first inversion (fig. (*k*)), (*c*) the subdominant (fig. (*l*)), (*d*) the supertonic (or its seventh) (fig. (*m*)), (*e*) the submediant (fig. (*n*)) by that of the dominant, either alone or preceded by the second inversion of the tonic triad (fig. (*o*), *cf.* fig. 93 (*n*).) (2) A succession of the tonic and the subdominant (fig. (*p*)); (3) the dominant (or its seventh) and the inverted tonic triads (fig. (*q*)); or (4) any succession of dominant and tonic triads other than that essential to the perfect cadence (fig. (*r*), *cf.* fig. 105). Figs. 135 (*j*) (*p*) present examples of the complete reversal in structure and, consequently, *effect* of, respectively, the perfect and the plagal cadences. The *dynamic*, *moving*, or *suggestive* force of the cases at (*a*) to (*g*), (*q*) and (*r*) should be especially remarked. (*Cf.* also pp. 171, 172.)

* It should be noted that the third of the triad was often *omitted* by the old masters.

Fig. 135. (a) (b) (c) (d) "Messiah." (e) HANDEL.



(f) "Messiah." (g)

(h) "Messiah." (i) A minor. (j) "Messiah."

(k) (l) (m)

IV. *The interrupted cadence.* If for a chord of repose, such as the final one of a perfect cadence, substitution be made of another and unexpected combination, and the ear thus *deceived*, there results what is known as an abrupt, interrupted, delayed, deceptive, or false cadence.

The epithet *false* is, however, commonly restricted to the case of the progression to the triad upon the *sixth* modal sound either major or minor. (See Art. 258.)

The interrupted cadence exists in an extensive variety of forms, many of which, by the presentation of unlooked-for combinations, conduce, in the highest degree, to the excitement of interest, and are often productive of fine effect. As examples of this formula the following may be cited :—A progression (1) to the *sixth* modal sound of the scale, whether major or minor (see Art. 258), (2) to the chromatic seventh upon the tonic (fig. 135 (*s*)), (3) to the dominant seventh (fig. *t*)), (4) to the diminished seventh (fig. (*u*)), (5) to any chord which may succeed a dominant discord by way of chromatic progression (fig. (*v*), *cf.* figs. 104 (*t*) and 137. Other forms of interrupted, known sometimes as *suspended* or *broken* cadence, result from (6) the insertion of an intermediate rest (with or without a pause) between the dominant chord and its resolution, and (7) the interpolation between these two integral chords in a full close of a brief succession of, relatively with the reigning key, extraneous (chromatic) combinations.

As exemplified in the previous examples, cadences are subject to *inversion.* (*Cf.* fig. 105.)

A degree of analogy seems to exist between the interrupted *cadence* in *music* and the *colon* of *verbal* language.

CHAPTER XXVIII.

Modulation.

IT has been stated (1) that all melody is based upon scale sounds occupying certain determinate and simple relations (Art. 19), and (2) that, for necessary purposes of variety, employment is made in music of scales based upon sounds of differing degrees of height or depth, *i.e.*, of pitch. (Arts. 26, 31.)

316. The employment of sounds, drawn from more than one scale in one and the same composition, constitutes, by the substitution of variety for dulness or monotony, a prime source of its interest and power to please.

317. Every piece of music is based mainly upon some one scale, termed the principal scale (Art. 36). A composition almost invariably begins and ends in its principal scale. (*Cf.* Arts. 210, 315 I., 352 I.)

This characteristic feature constitutes a great source of the unity essential to composition considered as a work of art.

The importance and predominance of the principal key of a piece are, it is plain, at once deducible from the fact of its being (*a*) the *first* and the *last* employed therein—a notable exception being found in the *dominant close* characteristic of the writing of the old masters—and (*b*) that to which a return may be and is commonly made after any or all of the modulations incidental to such piece.

318. In addition to the principal scale, however, by far the greater majority of compositions comprise sounds drawn from at least one additional scale.

The chief and almost only exception to this law is found in the instance of very short pieces—a case in which the sense of monotony, induced by the undue proportion of one set of sounds (key) (Art. 27), is obviated by the brevity of the composition.

319. The conduct of a composition from one key into another, or from one *mode* into another mode of *one* and the *same* key, is termed modulation.

The transit from key to key is also sometimes known as *transition*, but this term is commonly applied either to modulations of very limited extent, or to the variety known as *remote*, *abrupt*, or *extraneous*.

As might be expected, modulation is based upon and consists in its application of an extension of the great principle of the *relation* of sounds. Hence, therefore, a corresponding fundamental classification of modulation prescribed by the nature (the degree of simplicity) of the tonal relations involved.

320. In accordance with the degree of simplicity of

the relation of the keys between which, in any given instance, a transition is effected, modulation is known as either *natural* or *extraneous*. By *natural* modulation is meant that into the intimately related to the original, known as *attendant*, *auxiliary*, *relative*, or *derived* keys (Art. 36); by *extraneous*, *unnatural*, *remote*, or *abrupt* modulation, that into keys of a more remote relation therewith than these. In accordance, moreover, with the nature of the sound-ratios employed in its conduct, modulation has received a threefold classification as respectively *diatonic*, *chromatic*, and *enharmonic*.

The distinctive material of modulation is found in what are termed the *characteristic* sounds of the key. Of these the most decisive and unmistakeably determinative are the sounds conjoined in the incisive interval of *tritone*, viz., its fourth and its seventh, the latter as *sensitive* or *leading* note demanding to be followed by the tonic or key-note, and the whole combination, as presenting the complex sound-ratio (32 : 45), requiring succession—and this by the smallest progression, so as completely to secure the fixed attention and cognisance of the ear (Arts. 206, 256)—by the simple and relatively consonant interval of third. And this tritonic conjunction is rendered, if possible, even more imperative by the addition of the fifth scale sound as fundamental, the alternation of rest presented by the consonant tonic triad being now further constrained by the increased dissonance—that of seventh—imposed by the presence of the dominant, and the suggestiveness of this latter—resulting from its simple relation thereto—of the tonic itself.

321. Hence the most universal chord of modulation is that of the dominant seventh (Art. 229, and p. 187) in either its complete, or, as used by the old writers, its *derivative* form. Next to this in frequency of occurrence come, as might naturally be expected, the other fundamental or *tritonic* discords, viz., the dominant ninth and its derivatives, the leading and (notably in *either* mode) the diminished sevenths. *Cf.* fig. 137 (*c*).

For an exemplification of the paramount potency of the chord of the dominant seventh to effect modulation, the student is referred to the several figs. of the present chapter.

The potency of the tritone as determining the key is further seen from the consideration that any (even the simplest) complete modulation involves the destruction of this interval by the substitution of another and totally distinct for either its upper or its lower sound. (*Cf.* Art. 229.)

But although, as embracing the sounds distinctively essential to the existence of a key, the dominant or fundamental discords afford the most complete and the most universally utilised material of modulation, these combinations are not *exclusively* employed in the process of proceeding from key to key. Very frequently, especially in old writing, the dominant *triad*, as sufficiently suggestive of the key-note, is accepted in this capacity (see fig. 135 (*a*)-(*g*). Occasionally modulation is effected by *other* triads containing a characteristic key-sound (see fig. 136 (*a*), where the names of the modulating triads are severally indicated)—although in the strict style, and with the exception of the frequently found first inversion of the *dissonant* triad, restriction should be made to chords in *direct position*—sometimes by means of a *chromatic concord* or *discord;* the distinction between the *chromatic* and the *transitional* use of these latter being shewn in their *resolution*—the *progression, i.e.*, which they severally take. Such exceptional usages cannot, however, be regarded as perfectly matured modulations until the (generally early) appearance is brought about of some form of fundamental *dominant* harmony.

Thus any of the chromatic (whether statically and in themselves consonant or dissonant) chords of a key may, *as diatonic in another key*, be regarded as *doubtful chords;* and, moreover, certain of the *diatonic* chords of a scale may be treated in succession (quitted, *i.e.*) as *chromatic* chords *in another key.*

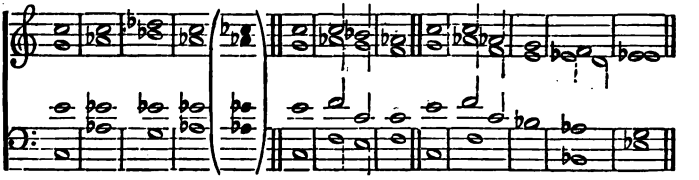
See fig. 136, in which at (*b*) the Neapolitan Sixth, at (*c*) the chromatic triad upon the lowered sixth of the major mode, and at (*d*) the chromatically modified subdominant triad, are severally employed as vehicles of modulation, while at (*e*) and (*f*) the diatonic triads of respectively the tonic, dominant, and subdominant major, are regarded as at (*e*) Neapolitan sixths, at (*f*) chromatic triads upon the lowered sixth of the major mode.

For the treatment of diatonic discords as chromatic, and *vice versâ*, the student is referred to fig. 137 (*d*)-(*f*).

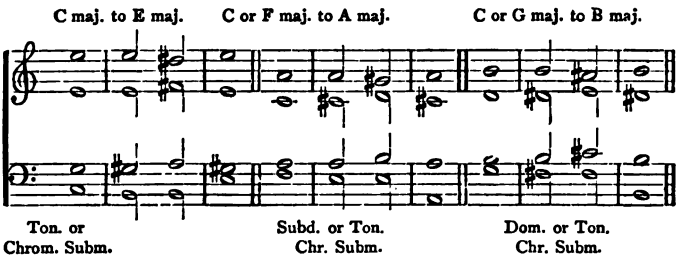
Fig. 136. (*a*) C maj. to F maj.

(*b*) C maj. to A♭ maj. or min. A min. to F maj. or min.

(*c*) C maj. to A♭ maj. or min. (*d*) C maj. to F min. C maj. to E♭ maj.



(*e*) C maj. to B maj. or min. C or F maj. to E maj. or min. C or G maj. to F♯ maj. or min.



322. Modulation, whether natural or extraneous, may be effected either *instantaneously* or *gradually.*

In the former case the characteristic sound or sounds of the new key succeed those of the key to be quitted as soon as possible; in the latter the insertion is resorted to of *intermediate* combinations having for their object the gradual, almost imperceptible, connection of the comparatively *unrelated* characteristic combinations of the several keys, by the presentation of sound-ratios in nature *ambiguous* or common to both.

In proportion to the intimacy of their relation, keys possess a greater or a less number of *common sounds*, and therefore *chords*, and it is a paramount object in gradual modulation so to arrange and succeed these various *linking* or *binding chords* as to effect, without appearance of design, and, as it were, by the finest shading, the desired transition in any given instance from the one key to the other.

From the constitution of auxiliary or attendant keys, as possessing in every instance a number of notes in common with the principal capable of being formed into what are termed *ambiguous* or *doubtful* chords, it is plain, in the nature of the case, that the *gradual* method, as calculated to secure in each instance a graduated sequence of comparatively simple relations, should be that most usually employed in natural modulation.

323. In natural modulation, effected gradually, the *characteristic* chords of the several keys are connected by what are termed *ambiguous* or *doubtful* chords—chords, *i.e.*, *common* to both the key to be entered and that quitted.

For a list of such chords proper to the several attendant keys, see the third column of the Table fig. 136 (*g*).

Natural modulation may, of course, if desired, be effected at once. Its most obvious and shortest method of accomplishment consists in the presentation, immediately after the tonic triad or even dominant seventh of the *old*, of the perfect cadence of the *new* key, constituted by the succession of its dominant seventh (or a derivative of this) and the tonic triad either direct or inverted. (See fig. 136 (*q*)–(*y*) &c.)

324. A modulation may be effected into any key whatever, however remote, but, for purposes of musical effect, not indifferently.

§ 1. Natural Modulation.

325. The scales most frequently employed for purposes of modulation, and known in contradistinction to the principal as the *relative, subordinate,* or *auxiliary* keys (Art. 36), are those of *simplest relation* to the principal scale; and of these by far the greatest preference is accorded to those which, as *immediately* derived therefrom, and as possessing the greatest number of common sounds—and hence linking or connecting *chords*—therewith are related to this in the first degree.

The following table (fig. 136 (*g*)) comprises a list of the attendant or auxiliary keys of a first, second, &c., degree to a principal here adverted to, arranged in (approximate) order of frequency of extended employment in composition for the purposes of respectively principal and subordinate modulation—an order, be it remarked, deviating occasionally in some measure (as a consequence, probably, of accumulated arbitrary practice), from that rigidly prescribed by comparative simplicity of relation. It should be noted that the form of minor scale, adopted as the basis of the Table, is that involving only an altered seventh. (*Cf.* pp. 168, 169.)

Fig. 136 (*g*). (*Cf.* fig. 136 (*s*).)

Relation of Attendant to Prin. Key.	Fundamental Linking (Ton Dom. or Subd.) with Prin. Key.	Chords (of Att.) common to both Prin. and Att. Key.	No. of Substituted Sounds.	
			In Attend. Key.	In Dom. 7th of Att. Key.
I.—Major (Prin.) to Major (Att.)				
Dominant	(Att.) Ton. Tr. = (Prin.) Dom. Tr.	4 Ton. Sup. Subd. Subm.	1	1
Subdominant	„ Ton. „ = „ Subd. „	4 Ton. Med. Dom. Subm.	1	1
Supertonic (Dom. of Dom.)*	„ Subd. „ = „ Dom. „	2 Sup. Subd.	2	1
Flat 7th (Subd. of Subd.)*	„ Dom. „ = „ Subd. „	2 Med. Dom.	2	1
Submediant*	„ Ton. (-3d) = „ Subm. (-3d).	0 None.	3	1
Minor Submediant*	„ Med. = „ Keynote	0 None.	4	3
II.—Major (Prin.) to Minor (Att.)				
Relative Minor	(Att.) Ton. Tr. = (Prin.) Subm. Tr.	5 Ton. Sup. Med. Subd. Subm.	1	1
Subdominant Relative Minor	„ Ton. „ = „ Sup. „	2 Ton. Med.	2	1
Dominant Relative Minor	„ Ton. „ = „ Med. „	4 Ton. Med. Subd. Subm.	2	2
Tonic Minor*	„ Ton. (-3d) = „ Subm. (-3d).	1 Dom.	2	0
III.—Minor (Prin.) to Major (Att.)				
Relative Major	(Att.) Ton. Tr. = (Prin.) Med. Tr.	4 Ton. Sup. Subd. Subm.	1	1
Flat 7th (Subdom. of Subdom.) Major	„ Sup. „ = „ Ton. „	2 Sup. Subd.	2	1
Submediant Major	„ Ton. „ = „ Subm. „	4 Ton. Med. Dom. Subm.	2	2
Tonic Major*	„ Ton. (-3d) = „ Ton. (-3d)	1 Dom.	2	0
Dominant Major*	„ Ton. „ = „ Dom. „	1 Ton.	3	2
IV.—Minor (Prin.) to Minor (Att.)				
Dominant Minor	(Att.) Ton. (-3d) Tr. = (Prin.) Dom. (-3d) Tr.	2 Subd. Subm.	3	2
Subdominant Minor	„ Ton. „ = „ Subd. „	2 Ton. Med.	3	2

* As requiring more than a single alterative accidental in their respective signatures, and hence constituting relatives to their principal of a second or a third degree, the several keys denoted by asterisks are commonly regarded as extraneous.

NOTE.—Of the distinctive designations applied to the several scale sounds, and correspondingly to the combinations founded upon these, those of *tonic*, *supertonic*, *dominant*, *sensitive*, and *octave* have been already explained (see Art. 28 and pp. 39, 181, &c.) The *mediant* is so termed from its situation *midway* between the tonic and the dominant in both the scale, and the important tonic chord; the *subdominant* from either (1) its position as beneath the dominant, or (2) its constitution as a species of second or subordinate, as well as (relatively with the tonic) an *under* dominant or governing key sound; the *submediant* from its position (analogous to that of the *mediant*) either in the important subdominant chord, or beneath the tonic, the *mediant* being the third *above*, the *submediant* the third *below* this principal scale tone. The *seventh* of the scale (*La note sensible* (*Cf.* Art. 187, (1) 231, &c.)) has been termed the sub-semitone or the *subtonic*.

326. As a general rule it may be laid down that modulation is effected more or less frequently in a composition into keys, in proportion to the intimacy (simplicity, *i.e.*) of their relation with the principal key; such simplicity being determined by (1) the number and character of the sounds, and hence *chords* common to both keys; and, therefore, (2) of alterations (by way of substitution) necessary to the evolution of (*a*) the characteristic dominant chord of the new key, and (*b*) the key itself in the production of its perfect cadence.

327. Hence the key most universally employed for purposes of modulation, in the major mode, is that of the dominant, or fifth of the principal key. (See fig. 136 (*z*).)

328. Should a modulation be contemplated in the course of a musical composition, recourse is had almost exclusively, in the first instance, to the scale of the dominant. In the multitude of short pieces this constitutes, in fact, the only, and in all commonly the most *extended* modulation.

329. In pieces of considerable length modulation is

commonly effected into other keys, in addition to that of the dominant.

It is obvious that, with the increased length of the composition (especially in the case of movements which, as devoid of accompanying words, and as being, consequently, of more abstract character, depend for their effect solely upon the aid of instruments), the sense of monotony becomes more perceptible and easy of induction. Hence the necessity for the greater diversification presented by the use of sounds drawn from a number of additional scales.

330. After that into the dominant major, the modulation into what is known pre-eminently as *the* relative key is probably the one of widest employment. (See fig. 136 (*z*).)

In the *minor* mode, the modulation into the relative major stands *first* in order of importance, afterwards those respectively into the subdominant and dominant minor with their relative majors. (See table, fig. 136 (*g*), (*z*).)

331. Next to those respectively into the dominant major and the relative minor in the major mode, the modulation into the subdominant is perhaps the one of most frequent occurrence.

Although the scales formed upon the dominant and the subdominant of the principal key are alike relatives thereto of the first degree (Art. 35)—each involving in its construction the presentation of but one foreign sound to those of such principal scales—still preference is universally accorded to the former (the dominant, *i.e.*), as the key into which modulation should *first* be made in a composition.

The reason of this seems to consist in the greater effect of disruption, as it were, evolved in the creation of a new *leading note*, necessary for the production of a new scale on the dominant; whereas, in the case of the subdominant, this important and highly suggestive note is found already to hand, constituting, as it does, the third of the principal key. Hence the change into the subdominant is more easy and less perceptible, involving only a

modification by way of descent (see Art. 36), while that of the dominant implies energy and effort, and is thought by virtue of this to impart a freshness and vigour specially befitting and characteristic of the early portions of a piece.

The modulation into the subdominant of the principal key, as quiet and reposeful in character, is often employed towards the close as the last in a composition before the final return to the principal key.

332. After that into the several attendant, or relative keys of the first degree, major and minor (see fig. 136 (*z*)); the next widely used modulation, in a major key, is probably that from the major to the minor upon the same tonic (generally termed the *tonic* minor).

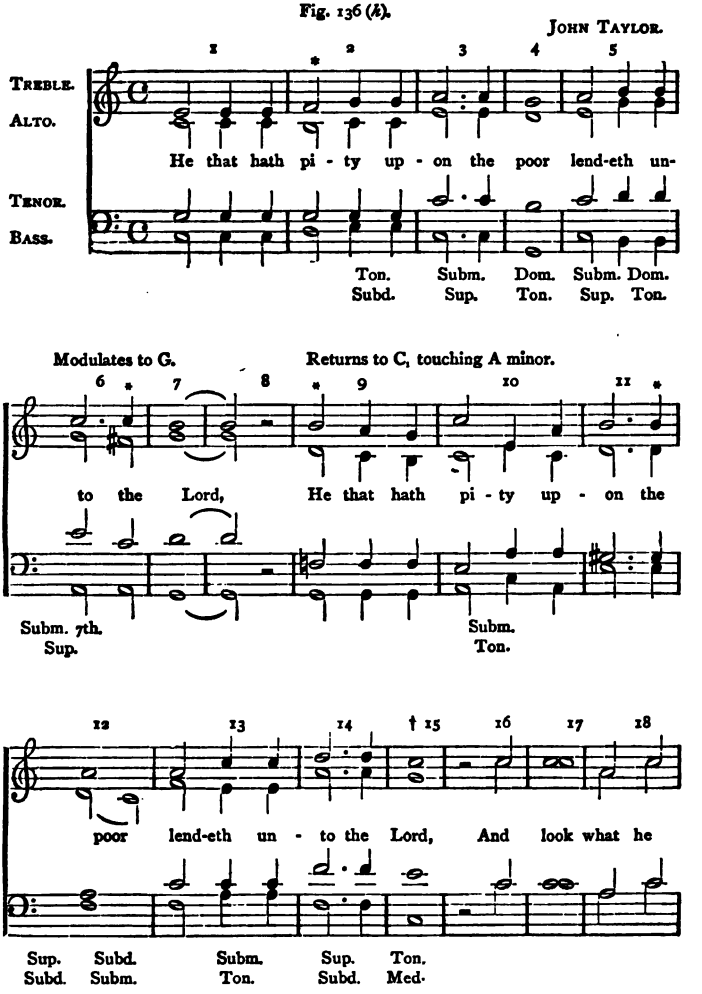
The major mode modulations of next degree of simplicity—those, viz., into relative keys of the *second* degree comprised in respectively the dominant of the dominant (original supertonic major), and the subdominant of the subdominant (original ♭7 major) of the original key, although not common as *principal* modulations, are of not inconsiderable frequency as *subordinate*, and notably employed in the construction of *real sequences* respectively ascending (fig. 136 (*s*)) and descending (fig. 136 (*u*)) by the interval of a tone. (Chap. xxix.)

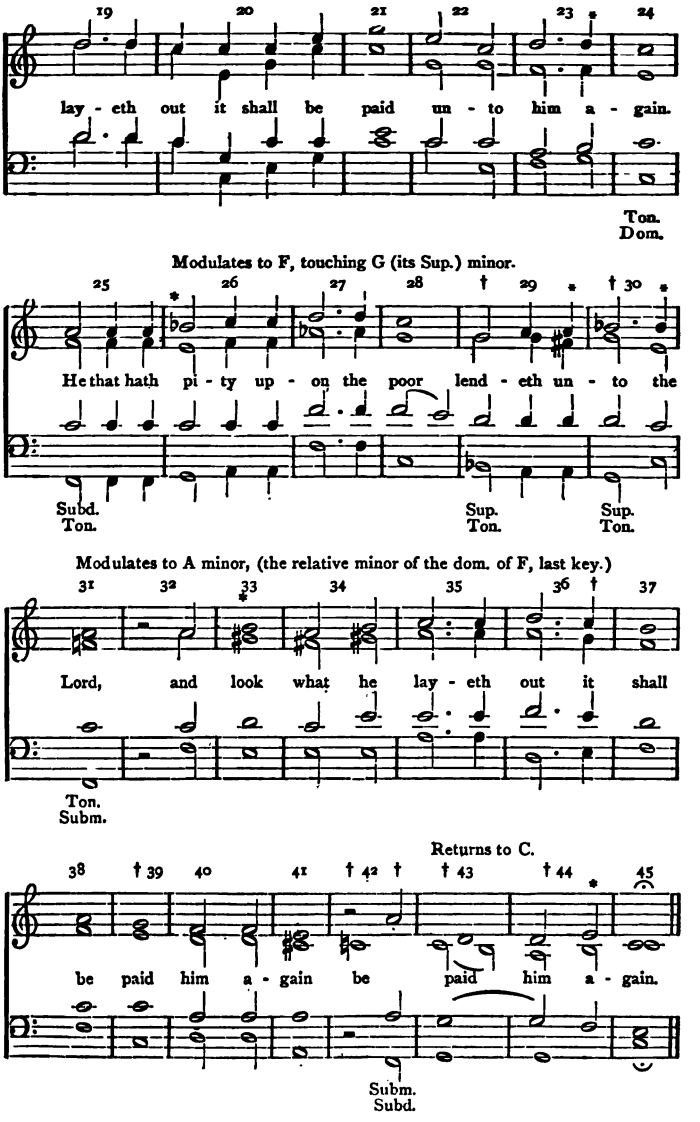
Fig. 136 (*h*) exhibits a short composition in the major mode comprising instances of respectively—(1) *natural* and *gradual* modulation into keys related to the principal in the first degree, viz., its dominant (bars 2–7) and subdominant (bars 24–31) major and its relative minor (bars 10–14 and 32–42), together with the relative major of this (bars 12–15) and the supertonic minor of the major subdominant; and (2) of *natural* and *instantaneous* modulation into the subdominant major (bar 9), the relative minor of the dominant (bar 33), and the ♭7 (bar 30), and the relative major (bar 43) of, in each instance, the immediately *preceding* keys; in the *former* case the ambiguous character and function of the several *linking* or doubtful chords being invariably denoted by the addition of, in the *upper* line their denomination in the *principal*, in the *lower* their denomination in the *attendant* key; while, in both cases, the *unmistakably characteristic* (*i.e.* tritonic) chords of the respective keys are severally indicated by means of asterisks, those characteristic *in a less degree* by means of daggers.

OFFERTORY ANTHEM.

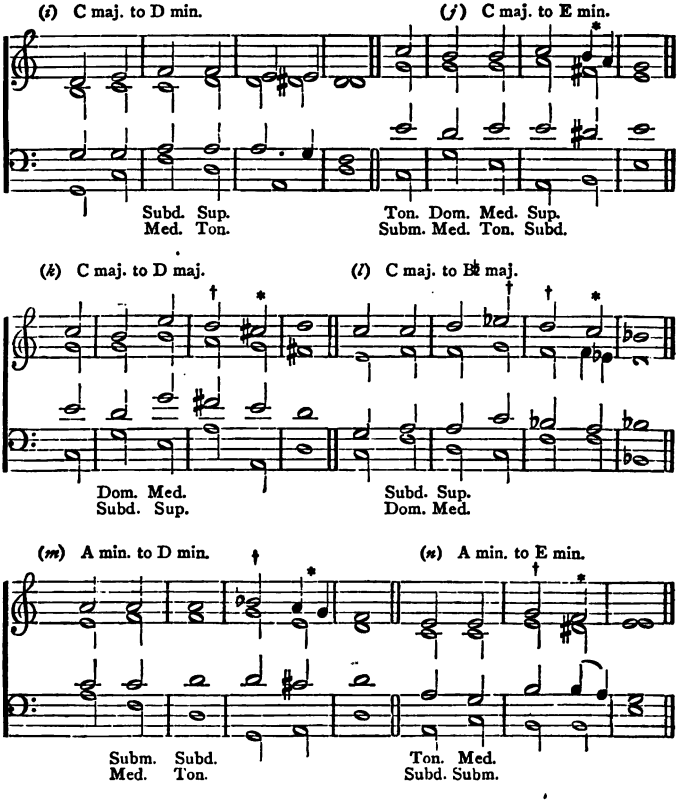
Fig. 136 (*k*).

JOHN TAYLOR.


1 * 2 3 4 5
TREBLE.
ALTO.
He that hath pi - ty up - on the poor lend-eth un-
TENOR.
BASS.
Ton. Subm. Dom. Subm. Dom.
Subd. Sup. Ton. Sup. Ton.
Modulates to G.
Returns to C, touching A minor.
6 * 7 8 * 9 10 11 *
to the Lord, He that hath pi - ty up - on the
Subm. 7th. Sup.
Subm. Ton.
12 13 14 † 15 16 17 18
poor lend-eth un - to the Lord, And look what he
Sup. Subd. Subm. Sup. Ton.
Subd. Subm. Ton. Subd. Med.


19 20 21 22 23 24
lay - eth out it shall be paid un - to him a - gain.
Ton.
Dom.
Modulates to F, touching G (its Sup.) minor.
25 26 27 28 29 30
He that hath pi - ty up - on the poor lend - eth un - to the
Subd.
Ton.
Sup.
Ton.
Sup.
Ton.
Modulates to A minor, (the relative minor of the dom. of F, last key.)
31 32 33 34 35 36 37
Lord, and look what he lay - eth out it shall
Ton.
Subm.
Returns to C.
38 39 40 41 42 43 44 45
be paid him a - gain be paid him a - gain.
Subm.
Subd.

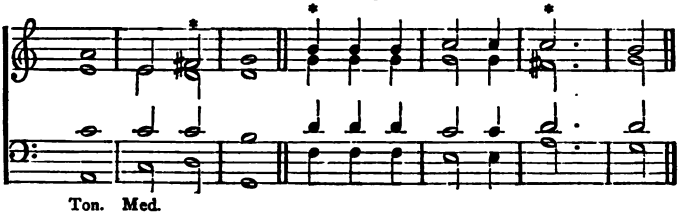
For instances of *natural* and *gradual* modulation into respectively, *from a major key*, the supertonic (*i*) and mediant (*j*) minor, the dominant of the dominant (original supertonic) (*k*) and the subdominant of the subdominant (original ♭7) (*l*) major (see figs. 136 (*i*) to (*l*)); *from a minor key*, the subdominant (*m*) and dominant minor (*n*) and the relative majors (*o*) (*p*) of the subdominant and dominant (see figs. (*m*) to (*p*).) And for instances of *natural* and *instantaneous* modulation into respectively, *from a major key*, the dominant (*q*), relative minor (*r*), supertonic major (*s*), and minor (*t*), and flat 7th (*u*) major, *from a minor key*, the subdominant (*v*) and dominant minor (*w*) and their relative majors (*x*) (*y*), see figs. (*q*) to (*y*).


(i) C maj. to D min.
(j) C maj. to E min.
Subd. Sup. Med. Ton.
Ton. Dom. Med. Sup. Subm. Med. Ton. Subd.
(k) C maj. to D maj.
(l) C maj. to B♭ maj.
Dom. Med. Subd. Sup.
Subd. Sup. Dom. Med.
(m) A min. to D min.
(n) A min. to E min.
Subm. Subd. Med. Ton.
Ton. Med. Subd. Subm.

(e) A min. to F maj.

Ton. Subd. Subm. Med.
Med. Subm. Ton. Dom.

(f) A min. to G maj. (g) C maj to G maj. MOZART.



Ton. Med.
Sup. Subd.

(r) G maj. to E min. MOZART.

(s) C maj. to D maj. MARCELLO.

(*t*) C maj. to D min. MOZART. (*u*) C maj. to B♭ maj.

(*v*) C min. to F. min. MOZART.

(*w*) D min. to A min. MOZART. (*x*) C min. to A♭ maj. MOZART.

(*y*) D min. to C major. MOZART.

Since modulation affords a powerful means for obtaining a necessary *variety* or *diversification* in composition (Art. 316), it should not, as a rule, be made twice in a single piece into the same mode of one and the same key. For the same reason, moreover, a suitable alternation should ordinarily be striven for in transition of *mode*, of major with minor keys *i.e.*, and *vice versâ*. The following (fig. 136 (*s*)), therefore, constitute the groups of relative or attendant keys, whether major or minor, into one or more of which natural modulation is ordinarily effected in a composition, the relative extent of their duration being (ordinarily) in the main determined by their position in the series. It should be noticed that in the major mode the modulation into the dominant commonly occupies by far the largest share in a piece, the several other modulations respectively taking up but comparatively brief portions of its extent.

Fig. 136 (*s*). (*Cf.* Fig. 136 (*g*).)

Approximate Order of Modulation from a Principal to its Attendant Keys.

I.—*From a Major Key.*	II.—*From a Minor Key.*
1. The Dominant Major.	1. The Relative Major.
2. The Relative Minor.	2. The Dominant Minor.
3. The Subdominant Major.	3. The Subdominant Minor.
4. The Supertonic Minor (= Relative Minor of Subdominant).	4. The Relative Major of (2) the Dominant.
5. The Mediant Minor (= Relative Minor of Dominant).	5. The Relative Major of (3) the Subdominant.
6. The Tonic Minor.	6. The Tonic Major.

§ 2. Extraneous Modulation.

Extraneous Modulation, or that into more or less *unrelated* (*i.e.*, other than *attendant* keys), although possible of an infinite amount of diversification—the even *approximately* exhaustive presentation of the existing means for its accomplishment demanding an analysis of the numerous works of the great masters—is ordinarily produced in obedience to the following conditions :—

333. Generally, any note of a combination may (for purposes of modulation) be converted into and treated as (consecutives and other faults of progression being avoided) a note of the same pitch with itself, but occupying a *different ratio* in any other combination.

The following are some of the particular instances most commonly encountered :—

(1.) By a change of *mode* upon the tonic triad, modulation may be effected into the attendant or relative keys proper to such modified triad. (Fig. 137 (*a*).)

Thus in fig. 137 (*a*) a modulation is effected (by a change from major to minor upon the triad of C) from C major to A♭ major, an auxiliary key of the first degree (viz., its subdominant) to the relative major (E♭) of C minor.

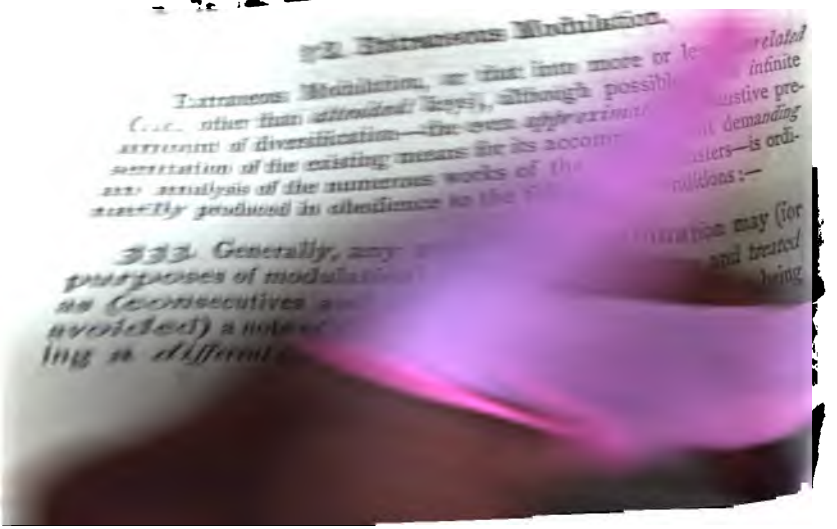
(2.) Any of the notes of (*a*) the tonic triad, or (*b*) the dominant seventh, or (*c*) ninth of the original, may be converted into a note of either (*a*) the tonic triad, or (*b*) the dominant seventh, or (*c*) ninth of the new key. (See fig. 137 (*b*) where the change of function is indicated in each instance by appended numerals.)

It is obvious that in (*a*) the tonic triads of the original and the new keys must possess at least one common sound, and this constitutes a not uncharacteristic feature of extraneous modulation. A frequent example of (*a*) to (*b*) is that wherein one of the sounds of the old tonic triad is converted into and suitably accompanied as note 7 of the new key.

It follows from (2) that modulation may be effected by means of exceptional modes of resolution of the chord of the dominant seventh, only *one* instead of *both* its distinctive tritonic sounds taking the normal progression proper to such sound. (See the normal resolution of single tritonic sounds indicated in the figure by means of slurs.)

Fig. 137. (*a*) C maj. (through C minor) to A♭ maj. MOZART.

(*b*) C to D♭ maj. C to F min. C to E♭ maj. C to D min.



The following are some of the particular
monly encountered :—

(1.) By a change of *mode* upon the tonic tri
be effected into the attendant or relative
modified triad. (Fig. 137 (*a*).)

Thus in fig. 137 (*a*) a modulation is effected
major to minor upon the triad of C) from C
an auxiliary key of the first degree (viz., its
relative major (E♭) of C minor.

(2.) Any of the notes of (*a*) the tonic tria
nant seventh, or (*c*) ninth of the original, may
a note of either (*x*) the tonic triad, or (*b*) the
or (*c*) ninth of the new key. (See fig. 137 (*b*)
of function is indicated in each instance by app
It is obvious that in (*a*) the tonic triads of the
new keys must possess at least one common sou
A frequent contrast of (*a*) to (*b*) is that wherein
of the old tonic triad is converted into and suita
as note 7 of that new key.

It follows, from (2) that modulation may be effe
exceptional circumstances, of [illegible] of the chord of the
only one [illegible] distinctive tonic sound
mal progression [illegible] (See the
of single [illegible] indicated in the figure [illegible]

(3.) By the use of the chord of the diminished seventh.

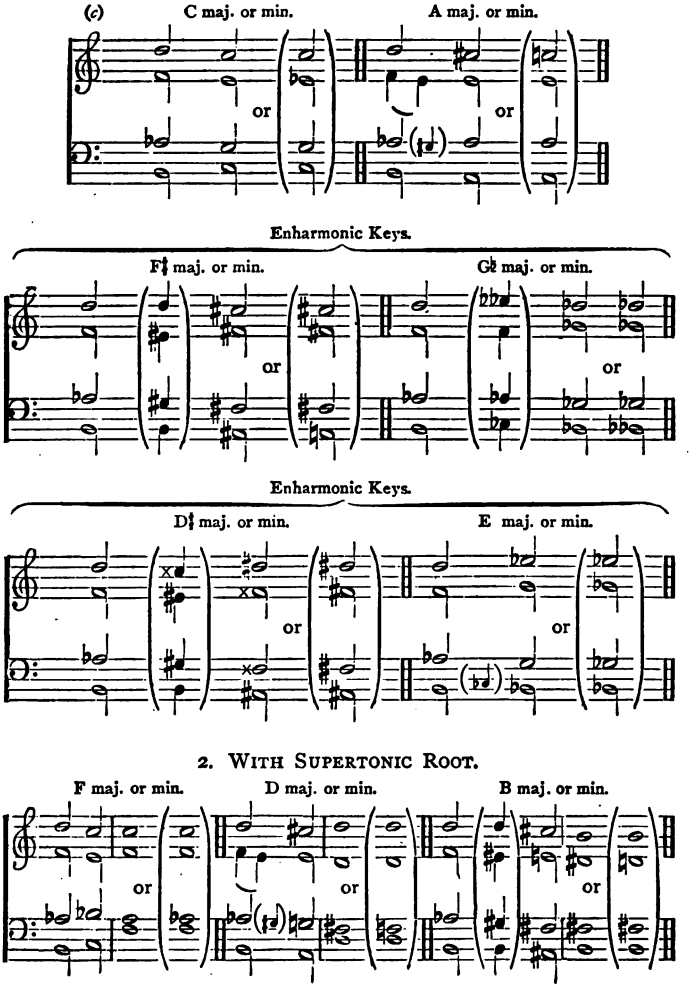
This combination, constituted *practically* of minor thirds, stands out pre-eminently as a vehicle for the conduct of extraneous modulation. By regarding a single specimen of this chord as respectively a chord of the diminished seventh in either its direct, first, second, or third inverted positions, and thus assigning it to four distinct fundamental roots, or their enharmonic equivalents; such roots being, moreover, in each instance, susceptible of treatment as either tonic, dominant, or supertonic in character, modulation, it is clear, may be made into the twelve keys of the chromatic scale, as well major (*Cf.* Art. 321) as minor, together with the several enharmonic equivalents of these.

Fig. 137 (*c*) presents short examples of modulation into each of the twelve keys of the chromatic scale, involving when desirable for simplification an enharmonic change (indicated in the fig. by means of black notes), and conducted by means of one and the same specimen (based respectively upon dominant, supertonic, and tonic roots) of the chord of the diminished seventh.

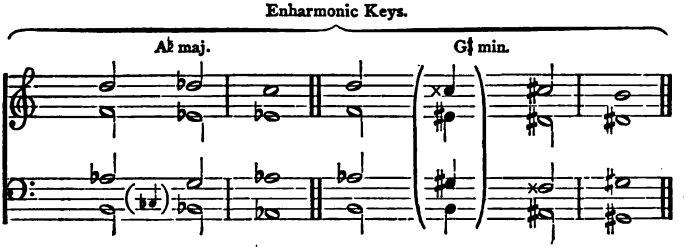
For the sake of brevity, the progressions have been restricted (a few instances for the avoidance of consecutives excepted) to (1) in the case of the dominant root, a resolution upon the tonic triad; and (2) (3) in the case of the supertonic and the tonic roots, a resolution upon fundamental dominant harmony of the new key. It is manifest, however, that these are by no means the *only possible* resolutions, the manifold resources presented by the combination

for purposes of modulation, and its extreme flexibility receiving further demonstration in the several other available resolutions of the chord, some of which are exemplified in figs. 121, 124.

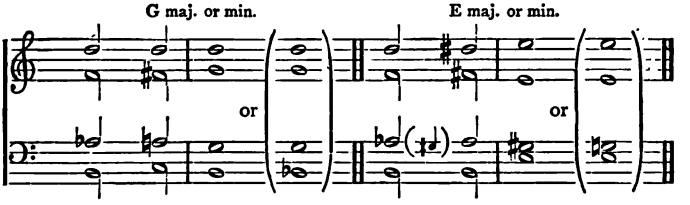
1. WITH DOMINANT ROOT.

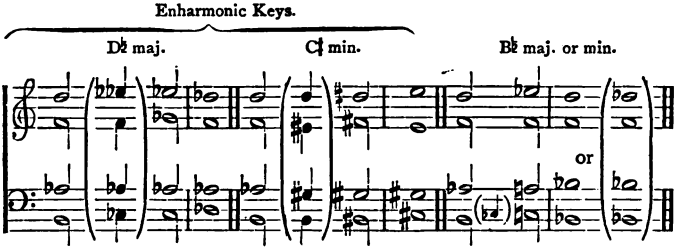


2. WITH SUPERTONIC ROOT.



3. WITH TONIC ROOT.





This extremely flexible chord is characteristically employed in modern music of the free style, in the production of novel and charming effects. It is highly typical of the function, generally, of extraneous modulation, as (1) in character exceptional, (2) best in long pieces—not being required in *short* where the most natural and easy modulation affords a sufficiently pleasing diversification (*Cf.* Art. 318)—and (3) used rather by way of *contrast* or *dramatically* than as in the case just instanced of compositions of briefer extent where—the effect of a restriction to the original with one or two attendant keys not having time to grate upon the ear nor

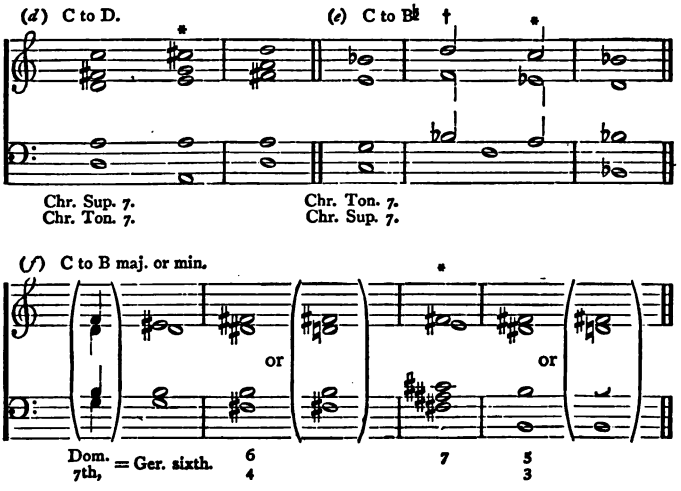
requiring the use of striking contrasts as corroborative of this—a natural and flowing gradation is rather sought after.

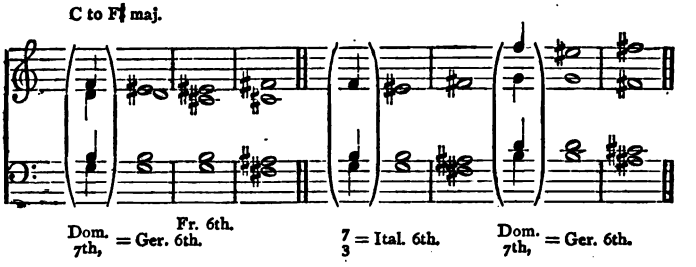
The marked and, as in the case of the diminished seventh, easily obtained effect of extraneous modulation renders it a fascination to young musicians. As above explained, its disproportionate use is under all circumstances to be strenuously avoided. More especially is the caution necessary in the case of beginners in harmony.

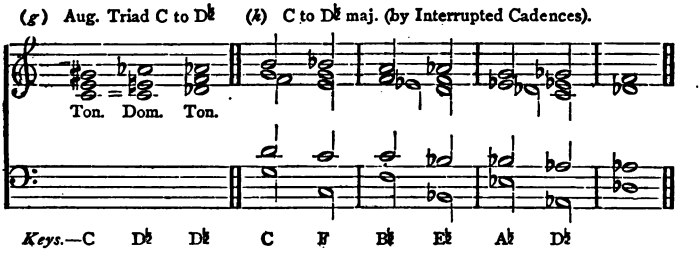
(4.) A fundamental *diatonic* may be regarded as a *chromatic* discord and correspondingly succeeded, and *vice versâ*. Moreover, *one chromatic chord* may be regarded, and hence succeeded, as *another chromatic* chord.

Thus (*a*) the chord of the *dominant* seventh may receive treatment in succession as a chromatic seventh with either a *tonic* or a supertonic root (see the eighth and sixth examples respectively of fig. 137 (*b*)); (*b*) a chromatic supertonic as either a chromatic tonic (fig. 137 (*d*)) or a diatonic dominant seventh; (*c*) a chromatic tonic, as either a chromatic supertonic (fig. 137 (*e*)) or a diatonic dominant seventh; (*d*) a dominant seventh, as either a German or an Italian (augmented, *i.e.*) sixth. (Fig. 137 (*f*).)

(5.) The chromatically-augmented triad may be regarded as a first inversion of the combination so named and correspondingly succeeded. (Fig. 137 (*g*).)



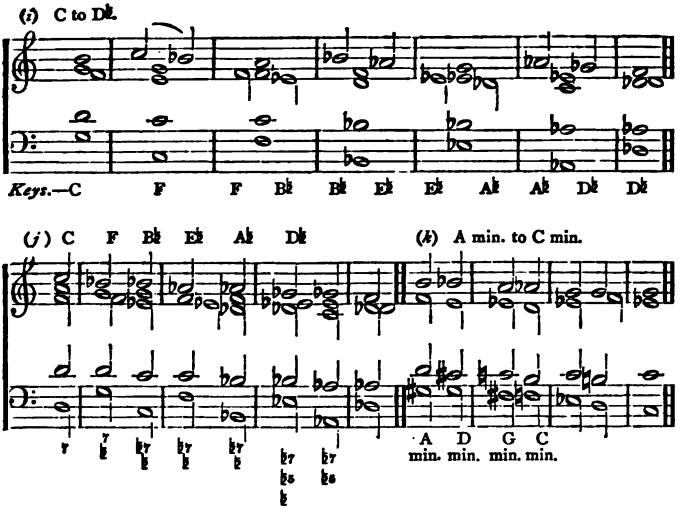




It is a general principle in extraneous modulation, especially in that resulting from the transformation with respect to their function of *dissonant* chords, that the ear should be allowed ample time for the assessment of the effect of surprise intended. Hence, such progressions are, more or less, drawn out or protracted in treatment.

334. When effected by a gradation involving an uninterrupted succession of fundamental chords characteristic of different keys, extraneous modulation is styled *compound*. (Fig. 137 (*h*) to (*k*).)

Such gradation may take among other forms that of a sequence of *dominant* sevenths, resolved either exceptionally (in which case it consists of a chain of interrupted cadences (see Art. 315 IV.),) fig. 137 (*h*) or, according to rule (*i*); of secondary supertonic (*j*); or of diminished sevenths (*k*).



§ 3. Enharmonic Modulation: Notation.

Extraneous modulation often, and as forming a mode of distinguishing this, *appropriately* takes the form termed, from the minute distinctions of ratio theoretically involved in the combinations by which it is effected, *enharmonic* (Art. 39) modulation. Enharmonic modulation invariably involves the alteration of one or more for practically equivalent sounds of substitution. (Art. 38.)

It follows from a consideration of Arts. 36–38 that any succession whatever, whether involving modulation or otherwise, is capable of being enharmonically displayed. (Art. 38.) Enharmonic notation does not, therefore, *invariably* indicate—although this often *is* the case—the presentation of a sound or combination standing to the preceding in highly complicated and foreign in lieu of anticipated and simple scale relation, for it is obvious that the very same passage in a strain may be repeated with a use of enharmonic notation without the occurrence of modulation at all. The distinction should therefore be drawn between (1) cases in which a change of notation is resorted to for purposes of *simplification* and *convenience*, and to avoid the presentation of musical passages in keys requiring the employment of a large number of

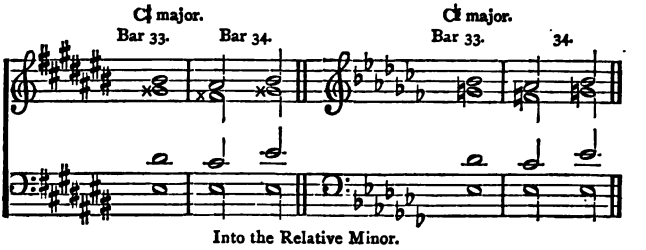
alterative signs (sharps and flats) *Cf.* fig. 137 (*l*)); and (2) cases in which, by a change of *function* or relation in the sound noted, such sound becomes a new *power* as a consequence of occupying a different *relation* with the preceding or conjoined ones than before. The instances of extraneous modulation enumerated in (3), (4), (5) are, as coming under the category last specified, frequently exhibited enharmonically. (*Cf.* fig. 137 (*c*)–(*g*).)

Since in the notation of modulation (which process is indicated invariably *at the point of occurrence* (*Cf.* Arts. 137, 138) by means of the requisite alterative accidentals) the alterative accidentals are confined very frequently to even a *single* part, it is obvious that a change of key is sometimes impossible of detection, or at least of due *assessment*, from an examination confined merely to *one* of the individual *melodies* which make up an harmonic progression. Upon a first inspection the key of a piece is best determined by a reference to its first and last chords. (*Cf.* Arts. 210, 315.)

Fig. 137 (*l*) affords examples of the notation of some of the short modulations contained in the bars correspondingly numbered of fig. 136 (*h*), *transposed* for the guidance of students into extreme keys.

335. The process of exhibiting a musical passage in more than a single key is termed *transposition*.

Fig. 137 (*l*).



Into the Relative Minor.

CHAPTER XXIX.

The Sequence.

336. A SEQUENCE consists in the repetition of the same relative progression of either *single* or *combined* sounds (*melodic* or *harmonic* progression, *i.e.*) at different degrees of pitch.

337. A passage selected for sequential treatment may range in extent from a single measure (or even note or chord of a measure) to an entire phrase. The repetition, moreover, may be either exact only with regard to *form*, as in the *tonal*, or with regard to both *form* and *tonal constitution*, as in the *real* sequence. (See figs. *Cf.* Art. 338.)

Thus in each of the sequential examples contained in the several figs., a repetition is effected of a certain melodic or harmonic range of greater or less extent termed a *member*, such repetition being confined in fig. 86 (iii.) to a single chord, while in fig. 86 (iv.) it is extended to half a measure, in figs. 93 (*f*), 137 (*h*), (*j*), (*k*), to a whole measure, and in figs. 136 (*s*), (*u*), 137 (*i*) to two measures.

338. In accordance with their constitution, as involving either (1) *exact* repetition of a succession or combi-

nation of intervals, or (2) repetition *modified* by restriction to a *single scale*, sequences are known as *real* or *tonal*.

For examples of real sequence see figs. 136 (*s*) (*u*), 137 (*h*) —(*k*), of tonal, figs. 86 (iii.) (iv.) and 93 (*f*).

A real sequence generally necessitates decided and quick (often extraneous) modulation, and is of far less frequent occurrence than the variety known as tonal. (See this exemplified in figs. 136 (*s*) (*u*) and 137 (*h*) to (*k*), where extraneous modulation is effected into the keys severally of D, B♭, and D♭ major, and C minor.)

In both real and tonal sequence repetitive treatment by either ascent or descent of a single degree (*conjunct* repetition, *i.e.*) is much resorted to; such repetition involving in the former case (that of ascent) the modulations frequently found in this connection into from the *major*, the major and minor keys situate a tone *above* and from *either major or minor* the major key situate a tone *below*, in each case, the immediately preceding key. (*Cf.* figs. 136 (*s*), (*u*), (*y*.)

339. A tonal sequence involves in the repetition of its constituent *members* modifications of the original or pattern succession or combination, by the interchange of major intervals for minor, perfect for imperfect, &c. the alteration, *i.e.*, of *their quality* (Arts. 60, 61) as necessitated by the region of the scale wherein such repetition occurs.

Thus in the sequence by conjunct and similar progression comprised in fig. 86 (iii.), while all are chords of the sixth, the first and fourth are inversions of *major*, the second and third of *minor*, and the fifth that of an *imperfect* triad, such difference in *quality* or *tonal constitution* directly depending upon the *varied scale position* of the several chords. An examination of fig. 93 (*f*) is found to be attended with a similar result. The tonal sequence exhibited in fig. 86 (iv.) is noteworthy as, while remaining pure with regard to the *form* or *figure* of the several members, deviating somewhat markedly in *tonal constitution*. The following is a short analysis.

While (1) the bass is strict throughout both with respect to form and tonal structure, (2) the alto and tenor are tonally strict in respectively only the second, third, and fourth, and the second,

third, fourth, and fifth members; and (3) the treble in the first four members. (4) In the first member the alto and tenor are severally interchanged, the alto assuming the tenor progression at the distance of an 8ve, and conveniently transposed to within its own compass, the tenor preserving the alto figure of three quavers; (5) in the sixth and last member the alto and tenor are again interchanged with respect to *form*, the figure of the latter, moreover, undergoing transposition to the interval of a sixth (instead of, as before, a third) with the bass, while (6) the treble remains pure in its two last members with respect only to its *figure* or *form*.

340. Sequential melodies or single parts should be sequentially harmonised, accompanied, *i.e.*, by additional parts moving also in sequence.

An important exception to this rule is found in the sequential bass with varied (although essentially or tonally the same in each member), superposed harmonies.

The sequence may be effectively employed upon a *pedal*. For two familiar examples of this device the student is referred to respectively the *Kyrie* and the fugue "*Cum Sancto Spiritu*" of Mozart's Twelfth Mass.

341. Certain tonal successions and combinations which would ordinarily be avoided, as not dictated by the general laws of progression, become justifiable under the special conditions of sequence.

The manifestation of *design*—so essential to the perfection of *form* in art—exhibited in this species of writing, and which prescribes its frequent admission into and extensive employment in the highest orders of composition, serves amply to outweigh such—relatively considered—minor discrepancies.

Thus in fig. 137 (*h*) (*k*) the resolution by descent of the leading note, and in fig. 138 which comprises a sequence of secondary sevenths resolved upon at (*a*) chords of the seventh and at (*b*) common chords, the harmonic and the melodic treatment of the interval of tritone (indicated by the asterisks) are severally justified by their necessity to the completion of the design contemplated in the several specimens. (*Cf.* also Art. 187 (1), p. 209, &c.)

Fig. 138. (*a*) (*b*)

Whatever the deviations, however, necessitated by the *repetitions* constituting a sequence, its *first* or *pattern* member should be free from objectionable progressions and structurally unexceptionable.

DIVISION II.—COUNTERPOINT.

INTRODUCTORY SECTION—RELATION OF COUNTERPOINT TO HARMONY—IMPORTANCE AND ADVANTAGE OF THEIR ASSOCIATED STUDY.

I. IN the Introductory Section to Part II., Division I., of this work, the distinction has been drawn between the two cardinal aspects of the science of sound-combination, the relation existing between these, together with their general correspondence with respectively the strict and the free styles of musical composition pointed out, and reference made to the importance of the associated study of Harmony and Counterpoint in the systematic consideration and practice of the science and art of musical composition. It is now to supplement what was then advanced as to the relation existing between Harmony and Counterpoint, the desirability of their *conjoined* rather than their *successive* study, and the advantages to be gained from the study and practice of a systematic *contrapuntal* (in association with an *harmonic*) course.

II. The Science and Art of Music, as we now have it, is the offspring of a long and progressive induction, comprised of innumerable tentative, often empirical, experiments suggested by either (1) the desire of novelty, (2) the boldness of innovators, (3) the gradual improvement and development of musical instruments, or (4) mere chance, and resulting in an extended accumulation of fresh discoveries with regard to the effects and properties of musical sound.*

In early mediæval times restriction was made in the *Diaphony* and *Organum* of *Guido* and *Hucbald*—the harmony of the period—to the employment of the *perfect consonances*, 8ves, fifths, and fourths. Somewhat later the *Fauxbourdon* and *Descant* admitted, although with reserve, the introduction of what are termed the *imperfect* consonances: at first the thirds, afterwards the sixths. Still later, and in the first half of the sixteenth century, the age of Palestrina and his contemporaries, an extension was effected to the use of (1) the discord by *prolongation* or *suspension*, and (2) the discord

* *Fetis.*

by *transition* or *passage*, the former being apparently limited in the first instance to the (of this music) characteristic form known as *syncopation*, and with a *downward resolution*, the latter to the variety of transitional discords known as *unaccented* passing-notes; while it was not until after (1) the bold and characteristic employment of the dominant seventh (previously almost exclusively found as either (*a*), upon a strong beat, a suspension, (*b*) upon a weak, a discord by transition) by Claude Monteverde, and the development of cadence towards the close of the same century, (2) the development of melody or tune, and hence of rhythmical form, consequent upon the extended use of the Psalm Tune or Chorale, and the improvement of the Musical Drama, and (3) the corresponding introduction of the *expression* of these developments in the system of figured bass—a system based upon the *relation* of sounds, and necessitating the *individualisation of chords*—that *the fundamental principle of key relation began to be recognised as paramount*, and thus the foundations at length slowly laid, and the materials prepared for the inauguration of the modern school of musical composition.

III. Some of the main and distinctive characteristics of the ancient, strict, or contrapuntal style of the old masters, and necessitated by their imperfect knowledge, and hence the inadequacy of their guiding principles, were—

1. *A lack of recognition as all-important of the great aesthetical principle of key relation* evinced in a *vagueness of tonality* involving (*a*) an absence of reiterated presentation of a central or reigning (principal) key, (*b*) the non-employment of sequences of chords related both to each other and to a prevailing tonic, (*c*) a general disregard of and an absence of design in modulation shewn in an ambiguity of *mode* (the *ancient mode* constituting the crude form or nucleus of the *modern key*, and the period of the old masters being eminently one of gradual and laboured *transition* from the employment of the *mode* to that of the *key*), a restriction to a limited cycle of a few keys, and a sort of purposeless wandering from key to key, and hence (*d*) a paucity and poverty (*tonally* considered) of distinctive cadence. (*Cf.* Art. 314.)

2. *A want of well defined, clearly cut rhythm*, and an absence of general recognition of *symmetry* and *proportion* in *musical form*, evinced in (*a*) predominant and all prevalent intertwining and overlapping of consonant melodies with (*b*) a poverty of (*rhythmically* considered) sectional and defining cadence. (*Cf.* Art. 314.)

3. So far as its *tonality* was concerned, the strict or contra-

puntal style was ruled by a ***rigid diatonism.*** Its avowed and normal materials consisted almost exclusively of the diatonic concords and dissonances by suspension and passage. With the exception of the inverted dissonant triad (*cf.* p. 186), it knew nothing of essential or fundamental combinations as employed in the modern manner, and without preparation. It was not until about the middle of the eighteenth century that the free use of even the dominant seventh was generally tolerated, and the recognition and adoption of the several other fundamental and chromatic combinations constituting the order of development indicated in the graduated table, p. 19, followed slowly. For a long period the second inversion of the triad—the chord of the $\frac{6}{4}$ (Art. 221)—almost unknown in strict counterpoint — was entirely eschewed, and the interval of 4th is even now very generally accounted as dissonant, and with the two exceptions specified in Arts. 383, 430, invariably treated by preparation in the strict style as such.

IV. It will be easily seen from a consideration of the preceding remarks as to the historical development of the science of harmony that the materials at the disposal of the old masters were, as compared with our modern resources, meagre and limited in the extreme. Yet, as may be seen from a study of their compositions, notwithstanding the crudities and imperfections necessitated by a laborious and tentative generalisation based upon a multitude of individual details (whose difficulties increased with the fresh discoveries of each successive musical genius) and characteristic generally of artistic and scientific progress, these comparatively scanty materials were transformed, by patient and loving industry, into works of nobility and grandeur.

V. The necessity, in a thorough musical training, for a preliminary contrapuntal course, is by no means obviated as a consequence of the more perfect knowledge attainable by reason of the harmonic development of the present day. On the contrary, as supplying the fundamental principles and laws, of which the rules of counterpoint constitute special and particular, although often (from the nature of the case) more or less erroneous, defective, and arbitrary applications, the development in question renders such a course, conjoined with the study of harmony, eminently desirable. (*Cf.* p. 140.) The preceding division of Part II. of this work is devoted to the explication and treatment of fundamental ***harmonic*** principles and laws as generally and in the main accepted by modern musicians; the present division will

exhibit in advisedly (owing to the dependent and subordinate character of these) as brief and concise a form as possible, the harmonic deductions and corollaries comprised in the rules commonly recognised of strict counterpoint.

Some of the main recommendations of an associated course of counterpoint and harmony, such as above contemplated, are—

(1.) Its value as a means of mental discipline, necessitating, as it does, (*a*) the development of the power of suggestion, and greater or less capacity for elaboration, possessed by, and inherent to, a musical idea (Art. 351), and (*b*) the utilisation to the utmost (as the result of nothing short of mental concentration) of the resources afforded in scanty and limited materials (*cf.* IV.)

(2.) Its absolute value in musical composition as indispensable for the acquirement of the power of suitably elaborating and artistically developing a musical subject or phrase. (*Cf.* Art. 351.)

(3.) Its value in the cultivation of purity, individuality, and thoroughness or solidity of part writing. (*Cf.* Chap. XXX. § 3, IV.)

(4.) Its necessity for the due assessment of, and discrimination between, what are respectively known as the strict and the free styles of musical composition. (*Cf.* I. and Art. 168.)

CHAPTER XXX.

DEFINITIONS AND GENERAL ART PRINCIPLES.

§ 1. Definitions and General Contrapuntal Rules.

NOTE.—*For examples of the several species of counterpoint of which definitions are afforded in the present chapter, the student is referred to Chap. XXXIII.*

342. Counterpoint (Lat. *punctum contra punctum*, or note (*point*) against note, (*Cf.* p. 116, note)) may be defined as the art of *Part Writing*, of appropriately placing *note against note*, of combining, *i.e.*, into one simultaneous whole distinct *melodies*, or, as far as possible, well individualized (by contrast or otherwise) (§ 3, IV. Art. 360) tonal successions or *parts*.

It should be noted that as in the case of the corresponding term *harmony*, the designation *counterpoint* is applied indifferently to either (1) the science and art, or (2) the actual musical parts themselves. (Art. 351 I.)

343. Counterpoint is either *simple* or *double*, *plain* or *figured* (*florid*). By *simple* counterpoint is understood that which does *not*, by *double* that which *does* admit (without structural modification) of *inversion* of the parts. *Plain* counterpoint is that in which the notes, simultaneously heard, of the several parts are of *equal* length or duration; *florid* or *figurate*, that involving the simultaneous conjunction of notes of *different* lengths, and hence in its higher developments of phrases of differing melodic *figures*. (Art. 105.)

The terms simple and florid are, moreover, sometimes employed —the former to denote the *first*, the latter the *last*, of the five distinct species of counterpoint.

344. By *double* is meant *invertible* counterpoint, counterpoint, *i.e.*, which may with equal correctness, and without violating the laws of combination or of progression, be placed unattended by structural modification either above or below a given subject.

It should be noted that the term inversion (Arts. 51, 52) is sometimes applied to denote the variety of progression known as contrary (or *inverse*) *motion*.

A counterpoint may be so constructed as to be *double* (*i.e.*, *invertible*) at *any* scale interval either above or below the subject, viz., at or in either the ninth (or second), tenth (or third), eleventh (or fourth), twelfth (or fifth), thirteenth (or sixth), fourteenth (or seventh), or in the fifteenth. Of these several species, however, those (*a*) double in respectively the 8ve, tenth, and twelfth, (*b*) triple and quadruple in the 8ve, are the most usual, and pre-eminently that double in the 8ve. The remainder, as in character pedantic, encumbered by numerous restrictions, and thus involving a difficulty of manipulation attended by an inadequacy (often harshness) of result, are but little practised. (*Cf.* Art. 348.)

345. Double counterpoint in the 8ve, is that wherein one and the same counterpoint may be placed without structural modification in either the 8ve above or that below the subject. When invertible at the distance of two 8ves, this variety is correspondingly known as double counterpoint in the fifteenth.

346. Double counterpoint in the tenth or third, is that wherein either (*a*) the *upper* part may be inverted at the distance of a *lower*, or (*b*) the *lower* at the distance of an *upper* tenth.

Should severally the *lower* part *ascend* or the *higher* part *descend* an 8*ve*, the transposition specified in Art. 346 may be effected at the interval of a third.

347. Double counterpoint in the twelfth or fifth, is that wherein either (*a*) the *upper* part may be inverted at the distance of a *lower*, or (*b*) the *lower* at the distance of an *upper* twelfth.

Should severally the *lower* part *ascend* or the *higher* part *descend* an 8*ve*, the transposition specified in Art. 347 may be effected at the interval of a *fifth*.

348. Triple counterpoint is that wherein the whole of the three parts of which it is constituted may be inverted; quadruple and quintuple that in which respectively four and five parts are susceptible of inversion.

In all double (*i.e.*, invertible) counterpoints, with the exception perhaps of that in the 8ve, it is often found necessary, for the proper completion of the harmony, or to secure a more varied and artistic effect, to introduce the modifications comprised in (*a*) *free* (*i.e.*, contrapuntally unrestricted) writing at the cadence, (*b*) the alteration of intervals necessary to secure either a smooth progression or the grateful variety and relief resulting from the introduction of modulation, and even with advantage (*c*) the addition of one or more complete supplementary (termed *free or complementary*) parts. (*Cf.* Art. 344.)

It is customary and convenient in studying double counterpoint,

to construct for purposes of ready selection and reference a series of tables (figs. 141–143), showing the inversions of the several intervals at the distance selected in any given species of counterpoint, whether such distance be, *e.g.*, at the 8ve, the tenth, or any other distance. The attention of the student is especially directed to the relevance of these tables as at a view explanatory of and affording a basis for the several rules.

It is plain that each of the five species of counterpoint may be employed either alone or in combination with any other or others of the remaining species and in any number of parts. Moreover, the *Canto Fermo* or subject may be taken with any species and whatever the number of the parts employed, as either the upper, the lower, or an intermediate or middle part, although in compositions of *many* parts the subject is commonly presented for clearness of effect (except for necessary purposes of study in a thorough contrapuntal training) in an *extreme* part.

In fine, any variety of combination and superposition of counterpoints is practicable.

349. The rules and restrictions of counterpoint are most stringent and binding (by reason of the exposed nature of these latter (Art. 271)) when applied—whatever proportion of a piece be thus restricted—to a *limited* number of parts. In proportion as the number of parts increases, and consequently (*a*) the difficulties become more numerous and formidable in character (*b*), the parts less exposed, the severity of the rules is correspondingly relaxed.

350. Certain of the contrapuntal rules were originally laid down with a view, in the limitation as to instrumental support and accompaniment prevalent at the time of their inauguration, to secure correct and steady vocal intonation.

351. It has been long customary for musicians to recognise as essential to a contrapuntal course (since these constituted the form first assumed by the science of harmony) the study and practice of five (virtually four, the second and third being substantially the same)

distinct species of counterpoint; such species, as differing both with regard to rhythmical and tonal constitution, forming five distinct modes or manners of treating or opening out, by way of elaboration and development, the resources possessed as to *accompaniment* by a given melodic subject or phrase.

The five orders, classes, or species of counterpoint accepted generally by musicians for purposes of study are as follows, viz. :—

1. *Counterpoint of note against note*, the conjoined melodies known as *the* counterpoint (*Cf.* Art. 342), consisting of consonant notes of equal duration with those of the subject.

2. *Counterpoint of two or three to or against one*, each note of the subject being accompanied with an *initial consonant*, followed by (according to the measure) either one or two *other* notes which may be either *consonant* or notes of *transition* or *passage*.

3. *Counterpoint of four, six, or eight to one*, consisting of an extension of the preceding species.

4. *Syncopated Counterpoint*, or *counterpoint by syncopation*, involving syncopations and suspensions.

5. *Figurate, Florid*, or *Mixed Counterpoint*, comprised of a judicious and suitable alternation and admixture of the several other species with ornamental additions by way of development.

A comparison of the two preceding with the *second* paragraph of the introductory section to the present division of this work serves to demonstrate what it was only natural to expect, viz., that the order of development exhibited in the contrapuntal course constituted by the consideration and practice of the five species of counterpoint, is radically and in the main identical with that progressively and, in the first instance, attained by the science of sound-combination itself.

The practice of counterpoint having originated and primarily developed in connection with the music of the church, it followed that the *subjects* first selected for contrapuntal treatment consisted of the characteristically grave, simple, and severe strains constituting the ecclesiastical melodies or chants of the time, and correspondingly known in each instance as the *Canto Fermo* or *Plain Song*. The subjects or musical phrases commonly chosen for treatment in a first contrapuntal course, as retaining the main characteristics of those originally employed and consisting ordi-

narily of notes of equal duration, are still styled *Canti Fermi*, and the accompanying contrapuntal melodies are known as the countersubjects or counterpoints (*Cf.* 1) either above or below the original subject.

§ 2. Counterpoint in the Free Style.

In modern counterpoint, or counterpoint in the free style, the restrictions peculiar to the ancient or strict style of the old writers are no longer binding; but the free use is admitted of essential or fundamental discords without preparation, chromatic and other alterations and substitutions and the several other characteristics of (as laid down generally in the preceding division of this work) the modern school of composition.

The progressive and synthetic order of study, generally, and for a long period (*Cf.* Art. 351), and as involving too the *gradual* and *single* presentation of *fresh difficulties—advisedly* considered by musicians as desirable in a first or preliminary contrapuntal course, consists in the successive study and practice of each of the five main contrapuntal orders in from two to a large number of parts, such number of parts being, in each instance, progressively increased only after the treatment of *all* the several species with the next lowest combination of parts has been effected. *Such a course is indicated by the sequence of examples comprised in chap. xxxiii.*

Although deviating from the order prescribed by this customary *curriculum*, it will be seen that the analysis of the rules of counterpoint (these being presented in the form of corollaries or deductions from the now broadly ascertained general principles of harmonic science (*Cf.* V. Introductory Section)) comprised in the succeeding chapters (chap. xxxi. and xxxii.), and designed for use in a contrapuntal conjoined with an *harmonic* course, not only not interferes with, but, on the contrary, greatly facilitates the assimilation of such a synthetic course, and this for the following among other reasons.

By the simultaneous display of successively and separately the laws of (*a*) combination, and (*b*) progression in connection with the several species of counterpoint as severally modified by their application to a progressively increasing number of parts, the following among other advantages, in the assimilation of the involved principles, are secured, viz. :—

I. The *exhibition at a single view* of the rules *special to each species* of counterpoint, whatever the number of the parts, and hence

II. Of a clear idea as to the progressive development of contrapuntal science, and

III. Of the exact relation borne by the particular and deductive rules of counterpoint to, together with the nature of the (often arbitrary) restrictions, severally imposed by these upon the broad and fundamental principles of harmony upon which they are severally based.

It will be found convenient, at the present stage, and for the acquisition of brevity, to present for the consideration of the student—

I. A statement of the general art principles applicable to musical composition, together with the general bearing upon these of the main characteristics of contrapuntal writing.

II. An analysis of the rules of (1st), *general* and (2d), (as constituting deviations from or particular cases of these), *special* application in the study of successively contrapuntal

I. Combination (chap. xxxi.) II. Progression (chap. xxxii.)

§ 3. General Art Principles Applicable to Musical Composition.

NOTE.—*The present should be studied in connection with the Introductory Section of Part II., Div. II.*

352. The main principles by which, in common with artistic construction generally, all musical composition worthy of the name is regulated are, that a musical production should be characterised both (*a*) as a whole and (*b*) with regard to the individual parts of which it is constituted by—I. *Unity* or *Centrality* in idea and design (involving compactness, consistency, and coherence); II. *Variety;* III. *Appropriateness, Fitness,* or *Suitability* (a corollary of II.); IV. *Individuality* (a corollary of I. and II.); V. *Symmetry* or *Proportion;* and VI. *Intention, Purpose,* or *Design.* (*Cf.* Art. 4.)

A musical composition, considered both as a whole and with regard to its several individual parts, should be characterised by—

I. *Unity* or *Centrality* in idea and design, a general coherence or consistency in the exhibition, development, and treatment of one leading idea.

Both the entire piece and its several constituent parts should form consistent and independent wholes.

A fundamental condition (tonally) of musical unity consists in (*a*) the restriction of a composition to in the main a single preponderating (principal) key, and in (*b*) the successive presentation under a variety of aspects of one individual (and chief) subject or theme.

While of paramount excellence in the treatment by way of development of (*b*) a given subject, ancient or strict writing is mainly characterised by a *vagueness* and *ambiguity* of (*a*) *key*.

II. *Variety*, the substitution in lieu of dulness and monotony (repugnant to all art) of a suitable and judicious diversification and relief.

Pre-eminent amongst the multifarious sources of variety in musical treatment, may be cited *modulation* by the common and systematic employment of which the old school of writing is *not* generally characterised.

It is but natural to find, notwithstanding the high excellence of many of its productions, that, as a consequence of its foundation upon limited materials, regulated moreover in their application by imperfectly apprehended principles, the contrapuntal school of music is characterised by a greater absence of structural diversification than is the modern.

III. *Appropriateness, Fitness,* or *Suitability* (a corollary of II.).

This applies, it is manifest, not alone to the *general* character of a composition as satisfactorily *expressive* for its intended purpose, and for the exhibition of a given sentiment or idea, but also to the *special* adaptibility of each of the *parts* (by way, *e.g.*, of compass and structure) to the medium of expression (voice or instrument) by which such part is to be rendered.

As characterised by a greater monotony of *style* and *manner*, and limitation of resource, the compositions of the old masters do not afford the striking contrasts between "grave and gay," sacred and secular, within the reach of modern musicians.

IV. *Individuality.*

Individuality of parts (a necessary corollary of I. and II.),

in which each part possesses an independent and (with regard to the remainder), as far as possible (both in tonal and rhythmical structure and progression), *well contrasted walk* or *career*, forms a prime essential of the higher order of musical (in which is notably included *contrapuntal*) writing.

This feature constitutes, probably, the main recommendation of the old writing, and that in which consists its superior excellence and charm.

V. *Symmetry* and *Proportion.*

This condition applies, primarily, to the disposition of the great plastic element (Art. 67) in musical construction—rhythm.

The ancient writing evinces a very general neglect of musical form.

VI. *Design.*

The attributes specified in I.–V. of the present article are necessarily attained as the result of a well-considered and well-prosecuted *intention* or *design*. A manifestation of *design* in musical writing is powerful to obviate a multitude of *minor* discrepancies, which, in the absence of this, would constitute points open to grave and serious objection. (*Cf.* sequence Art. 341.)

The evidence and practice in elaboration of design, presented in the contrapuntal course based upon the study of the five species, should be noted by the student.

CHAPTER XXXI.

Laws of Contrapuntal Combination.

The present should be studied in connection with Chaps. XVIII., XX., and XXI. (Cf. *Art.* 353.)

NOTE.—For the more effectual assimilation and mastery of the subject, and in order to gain brevity, the student is cautioned that in no case will a rule be repeated without special reason, and in order that the precise bearing of each of the following selections from "the multitude of detailed rules" of strict counterpoint as *corollaries* (often defective and arbitrary, and sometimes even positively erroneous) from "our now ascertained broad principles

of harmony," may be clearly and adequately ascertained and recognised, his attention is particularly directed to the appended references, *especially to those in Roman letters*, and indicating the general and fundamental art principles enunciated in Art. 352, upon which the several rules in question are based.

It follows from the above that, unless specially modified or contradicted, rules once enunciated are of continuous subsequent application.

For the more complete elucidation of the several rules the intervals contained in many of the examples have been indicated by appended numerals. Passing-notes, moreover, have been denoted as in chap. xxv. (*Cf.* Art. 298.)

A.—SIMPLE COUNTERPOINT.

§ 1. General Laws.

353. Subject to the restrictive conditions enunciated in the present and the following chapter, the general laws of *harmonic* combination laid down in chap. xviii. are of equal force of application in the science of counterpoint.

354. As the result, in the first instance, of an imperfect knowledge, and, moreover, as befitting the (relatively with modern music) "simple severity of this unadorned class of writing," strict counterpoint admits only, as materials for tonal combination, of (1) the triad with its first inversion, (2) prepared discords, (3) passing notes. The characteristically modern *second* inversion of the triad (the fourth being accounted dissonant) and —with the exception of the derivative dissonant triad— essential, fundamental, or dominant (*unprepared*) discords, with or without chromatic modification or employment, are expressly excluded as such.

The use of the interval of perfect fourth, necessitated by the varied distribution of, severally, the triad and its first inversion, is permitted (Art. 361) without preparation.

355. I. The interval of the unison should be, in general, avoided, or, at the most, used sparingly and subject to the restrictions subsequently enunciated in the rules special to the several contrapuntal orders.

II. The first and last bars of a contrapuntal phrase should comprise, as far as the nature of the case will permit, complete tonic harmony. (Arts. 210, 352 I.)

Frequently, in order to secure finality of effect, restriction is desirably made to duplication of the tonic in the appropriate 8ves.

In minor compositions the old masters commonly either (1) employed the *Tièrce de Picardie* (Arts. 240, 315 II.), or, (2) especially in pieces of a lugubrious and penitential character, omitted the third to the root.

III. The penultimate bar should contain (as nearly as the circumstances of the case will permit) the *representative* or *equivalent* of the *perfect cadence* afforded in the use of (*a*) the dissonant triad (p. 186), (*b*) the dominant triad, (*c*) suitable suspensions, or (*d*) passing notes, or the same appropriately modified or combined. (*Cf.* Chap. xvii., Int. Sect. III. 3, Art. 357, and p. 186.)

356. Subordinately to the rules of progression and the attainment of (*a*) melodic flow, (*b*) variety in tonal combination, clear, unambiguous, and complete harmony should be, as far as possible, striven for in each successive chord.

Of the foregoing rule, the following is a corollary.

357. Two and three-part counterpoint should constitute, as far as possible, the sketch, outline, skeleton, or framework, as it were, of a fuller and more complete harmony, the processes of duplication and omission being so conducted as (obediently to the laws of progression) to exclude ambiguity by the primary selection of the *characteristic* sounds of a chord. (*Cf.* Art. 352 I., III., IV.)

358. In the opinion of some authorities, duplication, when resorted to, should be generally extended, in the first instance, to the perfect consonances with the *lowest sound* of even an *inverted* chord. (*Cf.* ch. xviii. § 3 and Arts. 352 I., 363.)

359. A counterpoint most effectively begins (whenever, from the nature of the case, this is attainable) *after* rather than simultaneously *with* the subject.

The introduction of an initial characteristic rest both imparts elegance and is conducive to the attainment of individuality. (*Cf.* Art. 352 IV.)

360. Moreover, for the same reason, the subject and counterpoints should be severally well *contrasted* both with regard to (1) tonal constitution (*i.e.*, nature of involved intervals), and (2) progression (*i.e.*, character and direction of movement), and (3) rhythmical (durational and accentual) structure. (*Cf.* Art. 352 II., IV.)

For the due exemplification of the several *special* rules of counterpoint, the student is referred (when such exemplification does not occur in the context) to, in each instance, the examples of the particular species in question, comprised in chap. xxxiii.

§ 2. First Order (of Note against Note).

(a.) In Two Parts.

NOTE.—*The present should be studied in connection with the corresponding section of Chap. XXXII.*

361. Employment should be made only of *consonant* intervals, and to the exclusion of that of the perfect fourth. (Art. 354.)

362. The unison is not permitted excepting in the first and the last bars, which, as characteristic at once of unity and finality, should always contain a perfect con-

cord, the tonic (to avoid suggestion of two keys) being invariably found in the lower part, and the 8ve or the unison invariably in the last bar. (*Cf.* Arts. 210, 352 I., 355 I., II.)

(b.) In Three Parts.

363. According to some authorities (*a*) the 8ve and the third to the root of a triad should receive duplication in preference to the fifth, and (*b*) in the chord of the sixth the *third to the bass* should be preferably doubled. (Art. 358.)

It will be seen that this rule, as prescribing a distinction between the normal modes of selection of, severally, the triad and its first inversion, is based upon the attainment of a certain *diversification* or *variety* and individuality in tonal combination. (Art. 352 II., IV.)

364. To secure compactness the parts should be generally kept well together and within their natural compass. (Art. 352 I., and Chap xviii. § 2.)

(c.) In Four Parts.

365. The unison is more frequently doubled in the two *lower* than in the upper parts. (Arts. 355, 171.)

The duplication of the unison here prescribed serves (1) to strengthen and reinforce the important bass part; (2) to preserve the integrity of the upper melody (352 I.)

366. Avoid either too close an approximation, or too great a separation of the parts, the former (especially in the case of the *lower*) generally conducing to ambiguity and want of distinctness in the several parts, the latter to a vagueness and feebleness of effect. (Arts. 352, I., III., IV., 364.)

(d.) In more than Four Parts.

367. Counterpoint in eight parts may be written in either of two ways. (1) It may consist of one independent whole—the parts arranged in order of graduated relative compass moving *altogether*—thus taking the form known as an *otet;* or (2) it may consist of *two distinct quartets*, each with a distinctive and individual *walk* of its own, and presenting, as far as may be, complete harmony.

The double quartet, as eminently adapted for responsive or antiphonal effects, has been employed with great power in both cathedral and oratorio writing.

§ 3. Second Order (of Two or Three Notes against One).

(a) In Two Parts.

NOTE.—*The present section should be studied in connection both with Chap. XXV. and with the corresponding section of Chap. XXXII.*

368. The *Canto Fermo*, in the first and the last bars, should consist of a single note. (Art. 352 I.) Of the two notes of which each of the remaining bars is comprised, the first must be consonant, the second either (*a*) consonant or (*b*) a conjunct passing-note, the latter being, when practicable, preferred in the present species. (Art. 352 II.)

369. Occasionally the effect is enhanced, and zest and piquancy attained, by the use (in order either (*a*) to gain variety (*b*) to prosecute a design, or (*c*) to secure melodic flow) of a passing-note at the accent. The variety of unessential, known as simple *auxiliary*, notes, from either *above* or *below*, are also available in this order. (See fig. 139 (*a*), Art. 352 II., VI.)

370. It is customary to initiate the part containing the counterpoint with a half bar's rest. (Art. 359.)

Fig. 139. (a) ALBRECHTSBERGER.

§ 4. Third Order (of Four, Six, or Eight Notes against One).

(a.) In Two Parts.

NOTE.—*The present section should be studied in connection both with Chap. XXV. and with the corresponding section of Chap. XXXII.*

371. Of the four, six, or eight notes of which all but the first and the last bars, in this extension of the second species, are respectively comprised, the first must be consonant, the remainder either consonant or passing-notes. (*Cf.* Art. 368.)

372. Neither (1) the unison nor (2) duplication (with other than contrary motion) of the third to the root are permitted (except when unavoidable), at the accent. (Art. 363.)

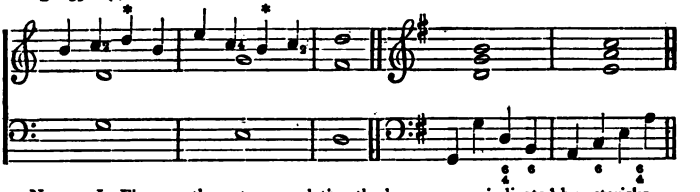
373. It is customary to initiate the part containing the counterpoint with a crotchet rest. (Art. 359.)

(b.) In Three Parts.

374. The materials forming the *tonic* harmony, of which the first (together with those constituting the *complete chord*, of which each) bar should consist (Art. 210 and 325 I., II.), should receive exhibition in their entirety, either with or without the interspersion of passing-notes, if not upon the *first*, at all events, when practicable upon the *second*, or other accented divisions

of the measure. Moreover, a restriction to one *single* chord per bar is, in general, most appropriate and effective (fig. 139 (*b*)).

Fig. 139. (*b*) CHERUBINI. Fig. 140. ALBRECHTSBERGER.



NOTE.—In Fig. 139, the notes completing the harmony are indicated by asterisks.

§ 5. Fourth Order. By Syncopation.

(a.) In Two Parts.

NOTE.—*The present section should be studied in connection both with Chap. XXIV. and with the corresponding section of Chap. XXXII.*

375. In the present species, in which syncopation takes place from bar to bar, each note of the subject (measure) should be accompanied by two of counterpoint. Of these the first may be either (*a*) a consonance, or (*b*) whenever practicable, a dissonance by suspension, the second must, as at once the note of resolution of the preceding and of *preparation* (Art. 285) of the *succeeding* suspension, be invariably consonant. (Art. 352 II.)

In triple measure the *second* of the three notes possible in a bar consists often of an interpolated ornamental note of resolution. (Art. 293 I.)

376. Syncopation should not be discontinued (if at all attainable, and unless for the avoidance of an undue deviation from a natural compass, or an undiversified repetition of phrase) for more than a single bar at a time. (Art. 352 II.)

377. The unison is permitted at the weak accent. (Art. 372 and 355 I.)

378. It is customary to initiate the part containing the counterpoint with a half bar's rest. (Art. 359.)

(b.) In Three Parts.

379. In cases where the syncopation is unavoidably transiently intermitted, employment may be effected of a half bar's rest. (Art. 376.)

§ 6. Fifth Order. Florid, Figurate, or Mixed Counterpoint.

(a.) In Two Parts.

NOTE.—*The present should be studied in connection with the corresponding section of Chap. XXXII.*

380. A suitable alternation in combination of the first four species should be effected; the restriction being, in general, made to two *successive* bars of the second, three of the *third*, and an employment of *short* (or of *varied*), suspensions of the *fourth* species.

381. Subject to the restrictions of progression specified in the corresponding section of chap. xxxii., the use of quavers is allowable in the present order.

382. It is customary to initiate the part containing the counterpoint with a half bar's rest. (Art. 359.)

(b.) In Four Parts.

383. The harmony of the $\frac{6}{4}$ may be taken upon any but the strong accent of the bar, when the bass moves in arpeggio. (Fig. 140.)

This forms one of the two cases to which the use of this combination is confined in strict counterpoint. (*Cf.* Art. 430 and Int. Sect. III. 3).

B.—DOUBLE COUNTERPOINT.

§ 1. In the Octave. (Cf. Art. 345.)

NOTE.—*The present should be studied in connection with the corresponding section of Chap. XXXII.*

384. The following (as shewing what the several intervals become upon inversion) is the table employed in the construction of counterpoint double in the 8ve. (Fig. 141.)

Fig. 141.

Intervals . .	1	2	3	4	5	6	7	8
Inversions . .	8	7	6	5	4	3	2	1

385. In order that inversion may be invariably guaranteed, the counterpoint should (1) neither exceed the limits of an 8ve, nor (2) involve, except transiently, and at the weak accent, crossing of the parts.

386. The use, upon a strong beat, of the unison or the 8ve should be, as far as possible, avoided. (Art. 355 I.)

These intervals are best when found upon a weak accent, and either as (*a*) notes of preparation, (*b*) passing-notes.

§ 2. In the Tenth or Third. (Cf. Art. 346.)

387. The following (as shewing what the several intervals become upon inversion) is the table employed in the construction of counterpoint double, in the tenth (or third). (Fig. 142.)

Fig. 142.

Intervals .	1	2	3	4	5	6	7	8	9	10
Inversions .	10	9	8	7	6	5	4	3	2	1

388. In order that inversion may be invariably guaranteed, the counterpoint should not exceed the limits of a tenth. (*Cf.* Art. 385.)

§ 3. In the Twelfth or Fifth. (Cf. Art. 347.)

389. The following (as shewing what the several intervals become upon inversion) is the table employed in the construction of counterpoint double in the twelfth (or fifth). (Fig. 143.)

Fig. 143.

Intervals .	1	2	3	4	5	6	7	8	9	10	11	12
Inversions .	12	11	10	9	8	7	6	5	4	3	2	1

390. In order that inversion may be invariably guaranteed, the counterpoint should not exceed the limits of a twelfth. (*Cf.* Arts. 385, 388.)

C.—TRIPLE AND QUADRUPLE COUNTERPOINTS.

I. The forms of triple and quadruple counterpoint most commonly practised are those severally constituted in the extension of counterpoint double, in respectively the 8ve, tenth, and twelfth by the superaddition (subject to certain conditions) of, for triple *one*, for quadruple *two* parts in thirds above or sixths below either the subject or the counterpoint or both.

The following are the main conditions of combination regulating the extension of counterpoint double at respectively the 8ve, tenth, and twelfth, by the superaddition of thirds constituting the present order of counterpoint, and deducible from a consideration of the appropriate table of inversions (fig. 142).

To avoid consecutives (1) *accented* notes must consist exclusively of an alternated succession of thirds (inverted eighths), sixths (inverted fifths), and eighths (inverted thirds), (2) *unaccented* notes must be passing.

Subject to the foregoing conditions, and that of progression enunciated in the corresponding section of chap. xxxii., the parts may be inverted and superposed in any order.

II. Triple, quadruple, &c., counterpoint may be so constructed as to admit of the inversion of any or the whole of the parts in the 8ve, unattended, *i.e.*, by any such structural modification of the melody as those by which counterpoints double at any other distance than that of the 8ve are inevitably characterised.

The main rule regulating the formation of the counterpoints in question is that prescribing the avoidance of the intervals of the perfect fourth and fifth, except when employed with (*a*) conjunct movement (*b*) (to the exclusion of the ninth) suspension.

CHAPTER XXXII.

Laws of Contrapuntal Progression. (*See note to Chap. XXXI.*)

A.—SIMPLE COUNTERPOINT.

§ 1. General Laws.

NOTE.—*The present should be studied in connection with Chaps. XIX., XX., XXII., XXIV., and XXV.*

391. Subject to the restrictive conditions enunciated in the present and the preceding chapters, the general laws of *harmonic* progression, laid down in chap. xix., are of equal force of application in the science of counterpoint.

392. Counterpoint of a limited number of parts should, as far as possible, make selection of the *characteristic* progressions of a fuller and more complete harmony. (Art. 357.)

393. Duplication should be ordinarily approached by contrary motion. (Arts. 352 IV., and 209.)

394. The *modulations* resorted to in the contrapuntal style should (as specially befitting the severity of this)

be almost exclusively *natural* and *diatonic* in character. (Art. 352 III. Chap. xxviii., § 1.)

395. Cadential progressions should be avoided other than at the close of the contrapuntal subject or phrase. (Art. 314, 315 I., 352 I., II.)

§ 2. First Order. Of Note against Note.

(a.) In Two Parts.

NOTE.—*The present should be studied in connection with the corresponding section of Chap. XXXI.*

396. A due admixture should be effected of perfect with imperfect concords—the latter preponderating. Avoid as puerile and detracting from the dignity and variety of the progression, and hence the individuality of the parts, the use of more than three successive thirds or sixths, except when such faults are obviated by a crossing (allowable in this case) of the parts. (Arts. 208, 209 (1), 352 II., IV., 399.)

The succession of two perfect concords of different denomination by oblique motion is obviously permitted.

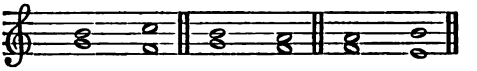
397. The use, in melody, of intervals of greater complexity of ratio, and (with the exception of the 8ve) dimension than the sixths, was in the most rigid counterpoint (although there is found some latitude of opinion with regard to this) forbidden. (Arts. 352 I., III., and 199.)

The melodic use of the major seventh with (except when a fifth) an interpolative melodic note is not admitted. *Conjunct diatonic* progressions should, as a rule, preponderate.

The circle of available intervals has widened with the progress of harmonic development (*Cf.* Int. Sec. II.). With the elder contrapuntists, even the major sixth was eschewed as an interval of melody.

398. The effect termed false relation of the tritone (*Mi contra Fa*), and consisting in the presentation of this interval, as formed by notes of successive chords moving conjunctly, is strictly forbidden. (Fig. 144 (*a*).)

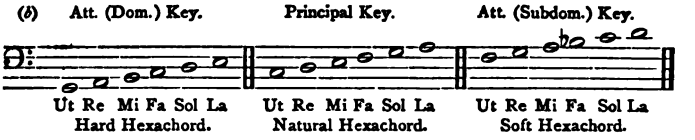
Fig. 144. (*a*) CHERUBINI.



NOTE.—The prohibition extends also to the *reversion* of the above progressions.

The prohibitions and restrictions by which the use of the distinctive tritone was limited by the old writers afford a strong characteristic of the fundamental difference existing between the ancient and modern systems as constituted in the elementary and provisional character of the former, and mainly evinced in its want of adequate recognition of the great aesthetic principle of musical relation. The dictum of the schools "*Mi contra Fa diabolus est*" finds its explanation in the fact that as not contained in the imperfect and provisional form of scale comprised in respectively the *tetrachord* (Arts. 24, 25), and the more subsequent *hexachord* or scale of six sounds, the employment of the interval of tritone conveyed to the *ancient* as clearly as does that of consecutives or of certain chromatically inflected notes to the *modern* mind, the impression of a confusion of scale resulting from the simultaneous use of two distinct keys.

The three hexachords or scale of six sounds formerly employed —and whose introduction and mode of nomenclature constituted in its (perhaps unconscious) dictation by the great central fact of key-relationship, an invaluable contribution towards the inauguration of our modern tonality—were respectively based upon (the *natural*) a central tonic (C), and its two main attendant (the *hard* upon the *dominant*, and the *soft* upon the *subdominant*) keys, and designated by Guido's syllables (*Ut, Re, Mi, Fa, Sol, La*) in accordance with, in each case, the relation borne by the several other to the tonic or principal (initial) sounds of each hexachord. (See fig. 144 (*b*).) Hence the employment of the tritone necessarily induced the false relation generated by the selection of sounds from *different* hexachords, the juxtaposition of the third (*Mi*) of *one* hexachord with the fourth (*Fa*) of *another.—Mi contra Fa.* (*Cf.* Arts. 352 I. and 207.)



399. I. Crossing the parts should be used only to avoid faults of progression, or to secure a graceful and flowing, in lieu of an awkward, melody. (*Cf.* Art. 396.)

II. Similar motion should be in general avoided. The variety produced by the passage of a *lower* part to a higher note than that immediately preceding in the *upper*, or of an *upper* to a lower note than that immediately preceding in the *lower*, as inducing a sense of confusion with regard to the individuality of the several parts, and as destroying the compactness of the melody, is, except where unavoidable, prohibited. (Fig. 145.)

400. The effect known as the 8*va battuta*, and consisting of a progression to the 8ve (fig. 146 (*a*)), or the unison (fig. 146 (*b*)) involving with the *upper* part *disjunct*, with the *lower* part *conjunct* movement, should be avoided. (Fig. 146.)

Beyond the poverty and baldness of effect generally characteristic of the unison, and in a somewhat less degree of its inversion the 8ve, which the use of the 8va battuta tends to emphasize, there seems to exist no apparent reason for this somewhat arbitrary rule. (Art. 355 I.) Disjunct progression to the unison is invariably forbidden.

401. On no account, by reason of the exposed nature of the parts (Arts. 171, 349), should a perfect consonance be approached by similar motion.

402. The cadence proper to the present order of counterpoint is constituted in the sketch or outline of the perfect cadence, afforded by the descent of the subject or Canto Fermo from the supertonic upon the tonic accompanied (whether in the upper or the lower part) by the leading note rising to the tonic. (Art. 315 I., and 357.)

403. As a consequence of the imperfect (*tetrachordal*, *hexachordal*, or *modal*) idea of scale entertained by the old writers, the leading note was not necessarily followed by the tonic. (*Cf.* Arts. 355 III., 395.)

(b.) In Three Parts.

404. All the parts should not proceed together, at one time, disjunctly. (Art. 352 I., II.)

405. The exception contained in Art. 203, as to the attainment of a perfect concord by similar motion, is tolerated with contrary motion in the middle part for the avoidance of the greater evils of want of compactness, or undue crossing, but preferably between the intermediate and extreme than between the extreme parts. (Art. 171.)

Considerable difference of opinion is found among contrapuntal authorities as to how far the exception enunciated in the present article should be tolerated.

406. A chain of chords of the sixth is permitted. (Art. 220, 352, VI.)

407. The following are the usual forms of *cadence*, the penultimate bar characteristically comprising a *complete*

chord. The *fundamental* dominant triad is also found in the penultimate bar. (315 I., 357 and 355 III.)

Fig. 147. ALBRECHTSBERGER.

NOTE.—The upper parts in fig. 147 may be inverted.

(c.) In Four Parts.

408. To avoid graver errors, consecutive fifths, by contrary motion, are occasionally permitted between either (*a*) an extreme and an intermediate or (*b*) the intermediate parts. (Art. 349, fig. 86 ii.)

409. The exception as to similar motion to a perfect concord, enunciated in Art. 203, and applied in Art. 405, is further extended to include the interval of perfect fifth even in the extreme parts, with avoidance, however, except cadentially, of the 8ve. (Art. 349.)

410. The succession of many thirds between the two lowest parts should be avoided. (Arts. 352 II., 396.)

(d.) More than Four Parts.

411. Consecutive fifths, by contrary motion, and the succession by similar motion of two fifths of differing quality, as perfect and imperfect, are tolerated (when unavoidable), the former in the extreme, the latter in the intermediate parts. (Art. 349.)

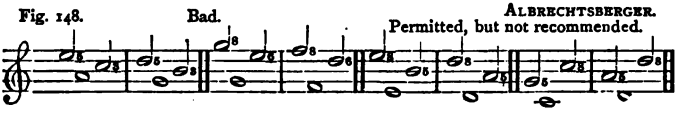
412. As serving to strengthen and reinforce the important bass—the *weaker* of the two *extreme* parts—the alternate unison and 8ve, are often found valuable in seven and eight part writing in the lowest parts. Crossing, when necessary, is tolerated. (*Cf.* Art. 355 I., 399 and 171.)

§ 3. Second Order. Of Two (or Three) Notes against One.

(a.) In Two Parts.

NOTE.—*The present section should be studied in connection with Chap. XXV., and with the corresponding section of Chap. XXXI.*

413. Consecutives at the *accent* are prohibited, excepting, perhaps (to escape a difficult point), with intervening disjunct progression to the interval of a fourth and upwards, and contrary motion. (Fig. 148. Art. 352 II.)



414. Between *unaccented* beats, the use of consecutives, when either (*a*) *passing* or (*b*) (with contrary motion) *consonant* fifths, is permitted. (Fig. 149.)

415. It is not considered desirable, by some authorities, even with a different accompaniment, to duplicate one and the same melodic *figure.* (Art. 352 II. Fig. 150.)

The successive repetition of one and the same sound constituting the effect known as parallel motion is forbidden.

The repetition, however, of the same figure either upon *different notes of the scale*, or in a *different part* as furnishing evidence of design, and conducive to unity, is, in florid or mixed counterpoints, of great value. (352 I., II., VI.)

416. The following are the usual forms of cadence. (Arts. 315 I., 355 III. Fig. 151.)

Fig. 151. Fig. 152. ALBRECHTSBERGER.

Good.

(b.) In Three Parts.

417. Consecutives between accented notes, with an intervening skip of a third (preferably of a larger interval) are permitted between an extreme and an intermediate part. (*Cf.* Arts. 352 II. and 349. Fig. 152.)

418. The cadences of the present may borrow when necessary from the fourth order in the penultimate bar. (Arts. 315 I., 355 III., 352 I., II. Fig. 153.)

Fig. 153. Fig.. 154 ALBRECHTSBERGER.

* Or with upper parts inverted.

The aggregation of (chiefly) syncopated progressions, as preparatory to the cadence and finding a counterpart in and constituting a practically equivalent substitute for the *penultimate characteristic scale sequences, and chords* of modern music, was, as heightening the reposeful effect of the closing consonance, much resorted to by the old writers.

§ 4. Third Order. Of Four, Six, or Eight Notes against One.

(a.) In Two Parts.

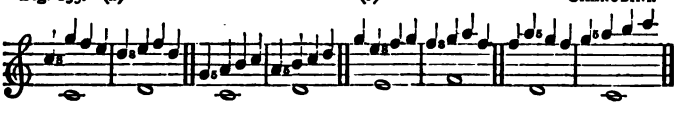
NOTE.—*The present section should be studied in connection with Chap. XXV., and with the corresponding section of Chap. XXXI.*

419. The skip to the accent, after a continuous conjunct progression of three or four notes, should be avoided. (Fig. 154.)

The reason for this rule is probably to be found in the harsh, disruptive, halting effect induced by the prohibited progression. (Art. 352 I.)

420. In the present species, three distinct cases of consecutives are possible, viz., those upon respectively (1) successive or alternate (strong) accents, (2) a strong and a weak accent, and (3) two weak accents. In the *first* case, the bad effect is generally thought not to be obviated by the intervention of, frequently, even *three*, unless perhaps in certain cases, with contrary motion, (fig. 155 (*a*)), in the *second* by that of *two* (fig. (*b*)), and in the *third* by (except in slow time) that of even *three*, notes, when the notes in question are, as the *extreme*, *prominent*, in a succession.

Fig. 155. (*a*) (*b*) CHERUBINI.



421. False relation of the tritone is not avoided by the interpolation, in melody, of one or two notes (fig. 156 (*a*)), excepting when (1) the notes forming such tritone do not constitute, so far as pitch is concerned,

the *extremes* (fig. (*b*)), or (2) are found as the *close* of a passage. (Fig. (*c*). Art. 352 II.)

Fig. 156. (*a*) (*b*) (*c*) CHERUBINI.

422. The form of auxiliary note from below interpolated between a passing note and its resolution, termed by Fux (figs. 132 (*c*) 157) a *changing* note or discord by *supposition*, and of which two kinds were practised by him, is tolerated in the present and higher species. (Art. 352 II.-IV., fig. 157.)

The interval of third, to which a skip is limited in the case of the changing note, seems to have been selected by reason of its comparative ease of intonation.

The use of the disjunct note of passage, known as the changing note, constituted a point of approximation to the modern characteristic employment of extended, passing, and auxiliary notes.

Fig. 157. *Cf.* fig. 132 (*c*). ALBRECHTSBERGER.

423. For the prevention, with the short duration characteristic of the present species of an abrupt, disjointed, and ambiguous effect, *conjunct* (with one distinct chord per bar), was preferred to *disjunct* progression by the old writers. (Art. 352 I., III.)

In a combination of the second and third species, one part is almost necessarily generally disjunct.

424. The following are some of the usual forms of cadence. (Fig. 158, *Cf.* Art. 315 I. and 355 III.)

Fig. 158. (*a*) CHERUBINI. (*b*) ALBRECHTSBERGER.

NOTE.—The several cadence-forms at (*) may be inverted.

(b.) In Three Parts.

425. The following are the usual forms of cadence. (Fig. 159, *Cf.* Art. 315 I. and 355 III.)

Fig. 159. (*a*) ALBRECHTSBERGER.

NOTE.—The two upper parts in each of the several cadences may be inverted.

(*b*) CHERUBINI.

§ 5. Fourth Order. By Syncopation.

(a.) In Two Parts.

NOTE.—*The present section should be studied in connection both with Chap. XXIV. and with the corresponding section of Chap. XXXI.*

426. The suspensions of consonant intervals available are—

I. When the syncopated counterpoint is written in the upper part and *above* the subject, those respectively of

The sixth by the seventh,
„ third „ fourth,
„ eighth „ ninth.

II. When the syncopated counterpoint is written in the *lower* part and *below* the subject, those respectively of

The third (or tenth) by the second (or ninth),
„ fifth (even occasionally when imperfect) by the fourth,
„ eighth . . . . . „ seventh.

Of the former, the *first* is that most effective in *two* parts; of the latter (*a*) the first is best, (*b*) the second most effective in three parts, and (*c*) the last to be used with reserve.

The above constitute, as it were, the *skeleton* or *sketch* of the more complete progressions comprised in Art. 430. (Art. 392.)

427. When in the part containing the syncopation, the initial note of the measure is *consonant*, it may be quitted disjunctly. (Art. 352 II.)

428. Consecutives disguised by suspensions as having their ill effect thereby greatly enhanced and rendered prominent, should be rigidly avoided. (Fig. 160, Art. 295, *Cf.* Art. 90 (2).)

Fig. 160. *Cf.* fig. 125 (*e*) (*f*) (*g*). ALBRECHTSBERGER.

429. The following are the usual forms of cadence. Fig. 161. (Art. 315 I. and 355 III.)

Fig. 161. CHERUBINI.

(b.) In Three Parts.

430. The suspensions of or upon consonant chords available are those of respectively (fig. 162.)

ALBRECHTSBERGER & CHERUBINI.

Fig. 162. (*a*) (*b*) (*c*) (*d*) (*e*) (*f*) (*g*) (*h*) (*i*)

I. When suspension takes place in an *upper* part.

(1.) Upon the Triad.

The 4 : 3 (with accompanying fifth) (fig. (*a*));
„ 6 : 5 „ „ third (fig. (*b*));
„ 9 : 8 „ „ „ (fig. (*c*));

(2.) Upon the Triad, First Inversion.

The 4 : 3 (perfect or diminished fourth) (fig. (*d*));
„ 5 : 6 (rising suspension) (fig. (*e*));
„ 7 : 6 (with accompanying third, occasionally eighth) (fig. (*f*));
„ 9 : 8 (rarely) (fig. (*g*)).

(3.) Upon the Triad, Second Inversion.

The $\frac{6}{5}$ $\frac{-}{4}$ (with stationary bass). (See fig. 163.)*

II. When suspension takes place in the *lower* part.

The 2 : 3 in (with accompanying fourth) the dissonant triad (fig. (*h*));

---

* This forms one of the two cases to which the use of the $\frac{6}{4}$ is confined in strict counterpoint (*Cf.* Art. 383 and Int. Sec. III. 3.)

The 2 : 3 in (with accompanying fifth) the chord of the sixth (fig. (*i*));

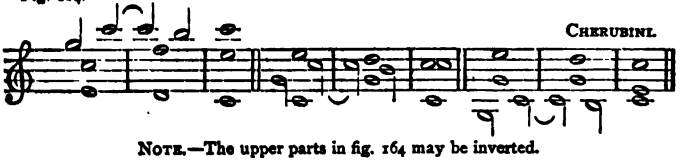
431. Consecutive fifths disguised by suspensions, permitted momentarily, and for brief sequences in the extreme part by the ancient writers, may be employed in slow time with an intermediate part. (*Cf.* Arts. 171, 349.)

432. In this variety a dominant pedal permitting an accented *unprepared* dissonance therewith by conjunct progression (chap. xxvi.), may be introduced either (*a*) as preparatory to a cadence, or (*b*) for two or three measures elsewhere. Fig. 163.

Fig. 163. CHERUBINI.

433. The following are the usual forms of cadence. (Art. 315 I. and 355 III.) Fig. 164.

Fig. 164. CHERUBINI.



NOTE.—The upper parts in fig. 164 may be inverted.

(c.) In Four Parts.

For examples of respectively suspending seconds, fourths, sevenths, and ninths, available in the present order of counterpoint, the student is referred to chap. xxiv. (Fig. 126. *Cf.* fig. 165 (*a*)–(*e*).)

434. The resolution of a suspension upon a *different* chord from that over which it is suspended, and involv-

ing the substitution of *two* instead of a *single* sound in one or more of the accompanying parts (Fig. 165), may be, with advantage, occasionally resorted to. (Art. 352 II. and 293 (2).)

Fig. 165. (*a*) 2nds. *Cf.* fig. 125 (*d*). CHERUBINI.

(*b*) 4ths. **Cf.* fig. 125 (*d*). (*c*) 7ths.

(*d*) 9ths. (*e*)

A particular case is that afforded in the suspension of the imperfect fifth, employed as at (*e*).

(d.) In More than Four Parts.

435. In counterpoint of seven and more parts, an exception as to the simultaneous conjunction of the suspending and the suspended notes is admitted, subject to the condition that the suspended shall be (*a*) transient and of shorter duration than (*b*) in a different 8ve from the suspending note, and (*c*) one of a series of notes proceeding by conjunct ascent. (Art. 349, 352 II., IV., 294.) Fig. 166.

Fig. 166. CHERUBINI.

§ 6. Fifth Order. Florid, Figurative, or Mixed Counterpoint.

NOTE.—*The present section should be studied in connection both with Chaps. XXIV. and XXV., and with the corresponding section of Chap. XXXI.*

436. The use of quavers is permitted subject to the following general conditions of strict counterpoint:—

(*a*) They should be seldom employed other than conjunctly.

(*b*) They should be restricted in their successive employment to two in a measure, and this at the weak accent, in order neither to break the flow nor detract from the characteristic dignity of the melodic progression. (Art. 352 I.)

437. A *minim* preceded by a note of shorter value, and occupying the second half of a bar, should (in order to prevent a disjointed effect and thus to secure continuity), be suspended into the next bar. For the same reason

a *crotchet* similarly situated, should *not* receive prolongation. (Art. 352, I., II., IV., V.)

438. The ornamental resolution of suspensions, by the aid of interpolated notes, is of great value in the present order as suggestive of a more complete harmony, and conducive to the formation of characteristic figures. (Art. 352 II., IV., VI., 392, and 293 (1).)

439. Syncopation, of varying durations, (Arts. 292, 293), should be much resorted to. (Art. 352 II.)

Fig. 167 presents common forms of one same suspension.

Fig. 167. ALBRECHTSBERGER.

However florid and ornate the progression, in order to secure a good flow and avoid stagnation, the strong accents of the measure should invariably receive indication by the percussion of notes thereupon in at least one of the parts.

440. Avoid the use of the first species excepting (desirably) in the case of the last bar. (Art. 352 I. II.)

441. The forms of cadence should be those of the fourth species, or the same varied. (Art. 352 II., *Cf.* 355 III.)

B.—DOUBLE COUNTERPOINT.

NOTE.—*The present should be studied in connection with the corresponding section of Chap. XXXI.*

In the study of the present and following sections and of double counterpoints generally, the attention of the student is directed to the value of the several tables of intervals (figs. 141–143) as affording at a glance a reason for the several rules.

§ 1. In the 8ve.

442. In double counterpoint proper, both *similar* (Art. 401) and (in two parts), at the accent, *disjunct* (Art. 400) progression to the 8ve (since this becomes upon inversion a *unison*, see table, fig. 141)), are prohibited. This rule does not apply (when contrary motion is employed), to counterpoint in the fifteenth.

443. The interval of perfect fifth (since becoming upon inversion a perfect fourth, (Art. 354), (see table, fig. 141), must occur as either (*a*) a *suspension*, (*b*) a *passing*, (*c*) a *changing*-note. (Art. 422.)

444. The interval of perfect fourth (since becoming upon inversion a perfect fifth, (see table, fig. 141)), must not be used consecutively. (Art. 200.)

Use, however, *may* be effected, especially conjunctly, of the *tritonic* fourth and fifth.

§ 2. In the Tenth (or Third.)

445. Consecutive thirds, sixths, and tenths, as repectively producing upon inversion eighths, fifths, and unisons (see table, fig. 142), are prohibited (Art. 200), excepting in the case of *complementary* parts (Art. 348), by contrary motion.

In two parts, similar motion to these intervals should be avoided. (*Cf.* Art. 401.)

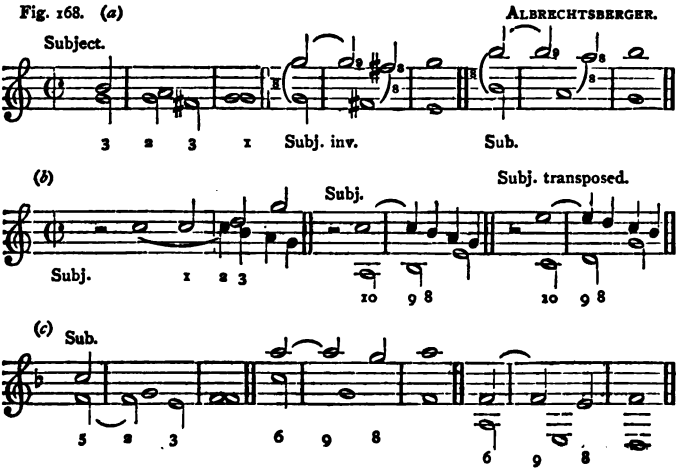
A reference to the table (fig. 142) will shew that there are *no* available consecutives in the present species of counterpoint.

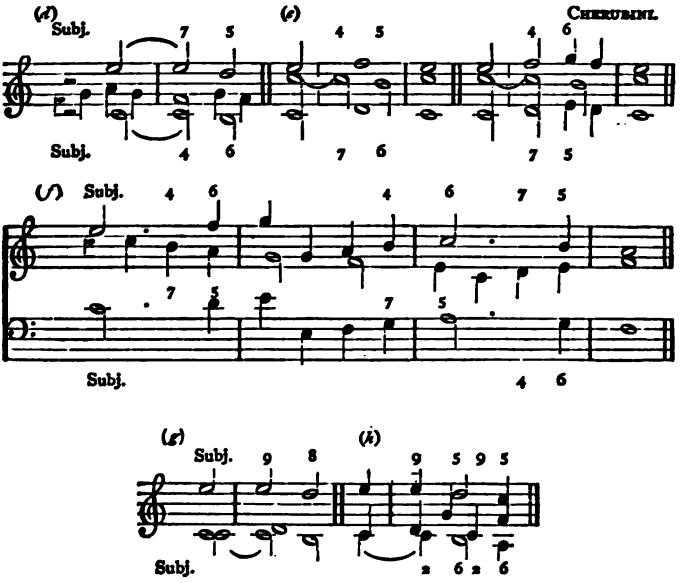
446. Since productive of hidden 8ves, the second (inverted ninth) must not be prepared by the third, (inverted eighth) fig. 168 (*a*), but may receive preparation by either the unison (inverted tenth) fig. (*b*), or the fifth (inverted sixth) fig. (*c*).

447. The fourth and the seventh (since interchangeable upon that inversion) may be employed solely as either (*a*) suspensions, the seventh preferably in the *upper*, the fourth in the *lower* part, both intervals moreover being resolvable into either a fifth or a sixth, fig. 168 (*d*) (*e*); (*b*) passing-notes, fig. (*f*); (*c*) changing-notes. (Art. 422.)

448. The ninth (inverted second) must receive a resolution either upon the eighth (inverted third) fig. 168 (*g*) or the fifth (inverted sixth) fig. (*h*).

449. The unison (inverted tenth) may be employed in two parts. (Art. 362.)





§ 3. In the Twelfth (or Fifth.)

450. Thirds and tenths (interchangeable upon inversion), are, it is obvious (*Cf.* table, fig. 143), the only available consecutives. In the strict style, these intervals *only* may be approached (in two parts) by similar motion. (Art. 401.)

451. The sixth (inverted seventh) must be either (1) a suspension (fig. 169), with resolution generally (to effect that of the seventh in the *upper*) in the *lower* part (fig. 169), (2) a passing-note when it may precede the seventh.

Moreover, in order to secure due resolution of its inversion the seventh, upon either the third or the fifth (see fig. 169), the *upper* note of the interval of the sixth should generally proceed by ascent of either a fourth fig. (*a*), or a second fig. (*b*), (*c*).

452. In lieu of preparation by the sixth (inverted seventh) the seventh must be prepared by either the third, fig. 169 (*a*) (inverted tenth), fifth (inverted eighth), fig. (*b*) or eighth (inverted fifth) fig. (*c*).

C.—TRIPLE AND QUADRUPLE COUNTERPOINTS.

453. The employment of similar motion should be almost exclusively avoided.

CHAPTER XXXIII.

Classical Specimens of Counterpoint.

THE following specimens of counterpoint, selected from classical authorities (mainly from the works of Albrechtsberger and Cherubini), and designed, if *carefully* studied, to exemplify as far as possible the several contrapuntal principles and laws enun-

ciated in the present division of this work, are presented in an order indicative of the synthetic course of study ordinarily prescribed by musicians. For the nature of the distinction between this and the analytic order adapted in chaps. xxx.-xxxii., and the reasons for the adoption of this latter, see chap. xxx. § 2.

The paramount importance (see p. 25, note) of the due realisation and assimilation of each successive musical effect presented for his notice, and thus of the complete mastery of the stage of attainment indicated by such effect, should not be lost sight of by the student.

The progressive practical course indicated in the following series of examples of counterpoint, and which, in order to be effectual and complete, should involve the steady exercise of each successive species at first alone, and then in combination with in order the several preceding species, and in every instance with a progressively increasing number of parts, is more fully exhibited in the following scheme. It may be desirably begun by the student as soon as he shall have so mastered the common scale as to be able to recognise and produce at pleasure and at any convenient pitch its several intervals and sounds.

Synthetic Order of Study of Practical Counterpoint.

A.—Simple Counterpoint.

(*a*) The five species in order in 2 parts (*duple* measure).
(*b*) The same (generally) in *triple* measure. ((*) See note.)
(*c*) 1st order in 3 parts.
(*d*) 2nd ,, ,,
(*e*) 3rd ,, ,,
(*f*) 2nd and 3rd orders combined, in 3 parts.
(*g*) 4th order in 3 parts.

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* Note.—The student is recommended not to proceed in general to the study of counterpoint in *triple* until after thorough exercise in and practice of that in *duple* measure of one same species. Moreover, the practice of double counterpoint may be desirably initiated as a rule when facility has been acquired in the construction of simple (*i.e.*, non-invertible) counterpoint in five parts, and in many cases (beginning with simple specimens) even earlier. The exact order of procedure must necessarily vary in individual cases. Every superposition of parts possible should be practised in the several species, transposition being adopted whenever necessary to make the subject tell with the best effect. (*Cf.* figs.)

(*h*) 2nd and 4th orders combined, in 3 parts.
(*i*) 3rd and 4th ,, ,, ,,
(*j*) 5th order in 3 parts.
(*k*) 2nd and 5th orders combined, in 3 parts.
(*l*) 5th (with 2 parts florid) in 3 parts.
(*m*) (*c*) to (*l*) in triple measure. See note.
(*n*) 1st order in 4 parts.
(*o*) 2nd ,, ,,
(*p*) 3rd ,, ,,
(*q*) 2nd and 3rd orders combined, in 4 parts.
(*r*) 4th order in 4 parts.
(*s*) 2nd, 3rd, and 4th orders combined, in 4 parts.
(*t*) 5th order in 4 parts.
(*u*) 5th order (with successively 1, 2, and 3 parts florid).
(*v*) 5, 6, 7, and 8 part counterpoint in the order indicated above for that in respectively 3 and 4 parts.

B.—Double Counterpoint.

The order for double counterpoint is sufficiently indicated in the examples. (Figs. 174-179.)

For the sake of brevity, the several examples are presented, as far as possible, in short score, and sometimes in a higher or lower 8ve than normal. Their transposition, together with that of numerous other specimens, by the aid of the proper clefs, will afford an indispensable and valuable exercise in the study of practical counterpoint.

Cases of crossing of the parts, irregular suspensions, species of interval, &c., and important points have been, where necessary, indicated; and in order to render the examples still more useful, as specimens of *suggestive* analysis, the nomenclature of passing and auxiliary notes prescribed in chap. xxv. (Art 298, note), has been adopted. Moreover, (1) in order to illustrate the necessity and value of a contrapuntal course in the acquirement of the capacity adequately to develop a given musical subject or idea (*Cf.* Int. Sect. V., Art. 351, &c.), and (2) to exhibit as effectually as possible the relative mutual bearing of the several contrapuntal orders, an adherence has been effected to a minimum of distinct subjects in either mode.

The examples marked with an asterisk may be transposed in each instance to suit compass.

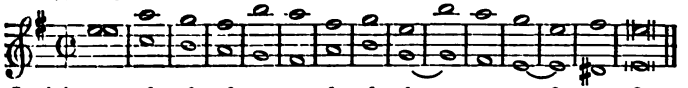
A.—SIMPLE COUNTERPOINT.

§ 1. Two Part Counterpoint.

(*a*.) First Order. Of Note against Note.

Fig. 170. (*a*) Cpt. above. (1.) Duple. Albrechtsberger.

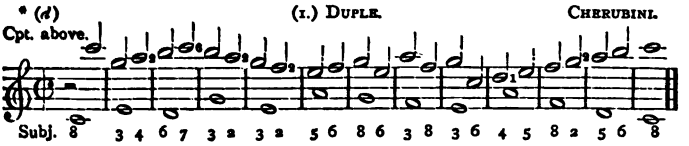
* (*b*) Subj.



(*c*) Subj. (2.) Triple. Albrechtsberger.

(*b*.) Second Order (Two to One).

* (*d*) (1.) Duple. Cherubini.

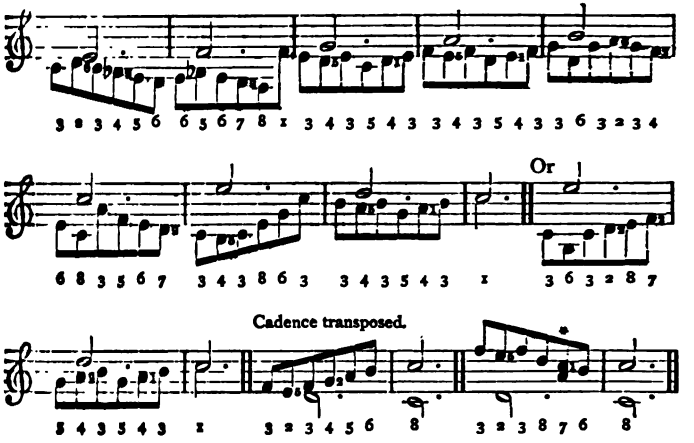


* (*e*) Subj.

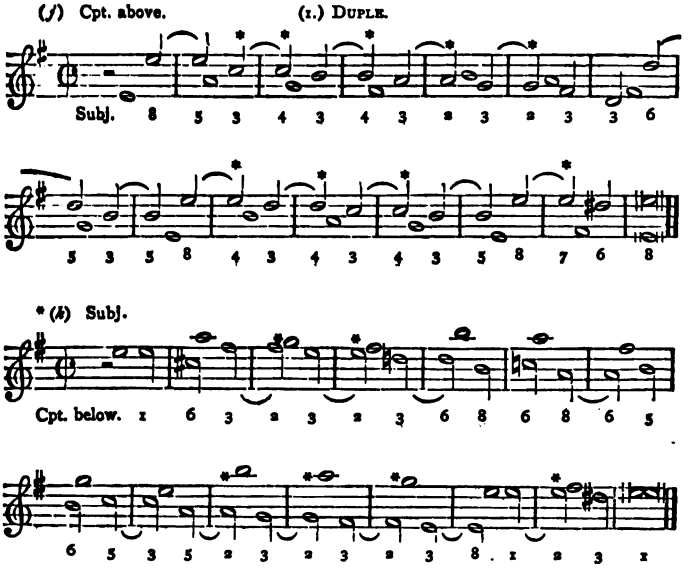
* (*f*) (2.) Triple (Three to One).

(*c.*) THIRD ORDER (FOUR TO ONE).

(2.) TRIPLE (Six to One).



(*d.*) FOURTH ORDER. (BY SYNCOPATION.)



(*c.*) FIFTH ORDER. (FLORID OR MIXED.)

NOTE.—Bars 9 and 12 of fig. 170 (*m*) severally present instances of at (A), the *changing-note* (Art. 422); at (B) ornamental resolution of a dissonance by suspension (Art. 438). Note also the effect of the *oblique* in obviating the (in this species) prohibited (Art. 415) —because *monotonous* and interfering with the *design—parallel* motion at (C) (D) fig. (*n*), and thus securing individuality in the progression.

§ 2. Three Part Counterpoint.

(*a*.) First Order.

Fig. 171. (*a*) CHERUBINI.

Subject.

Note the admitted crossing of the parts in this passage of thirds (Art. 396).

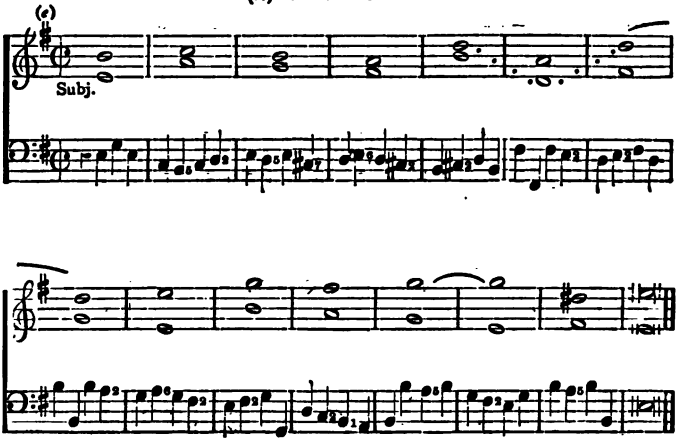
(*b*) Subj.

(*c*) ALBRECHTSBERGER.

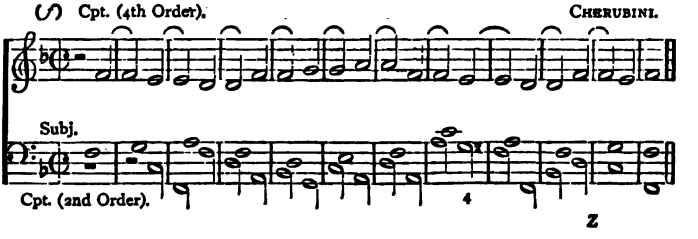
(*b*.) Second Order.

(*d*) ALBRECHTSBERGER.

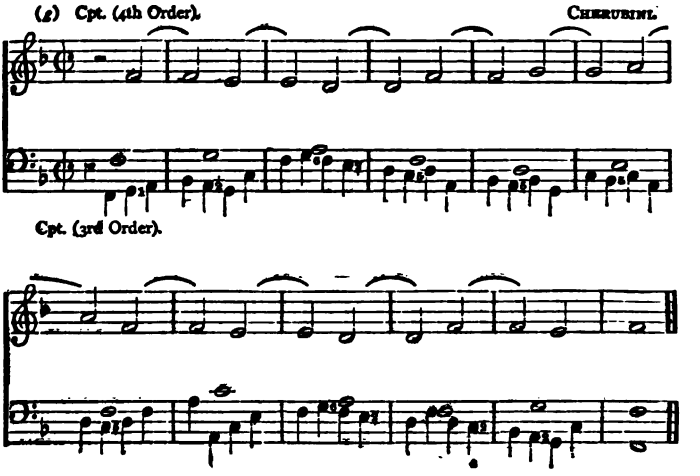
(*c.*) THIRD ORDER.



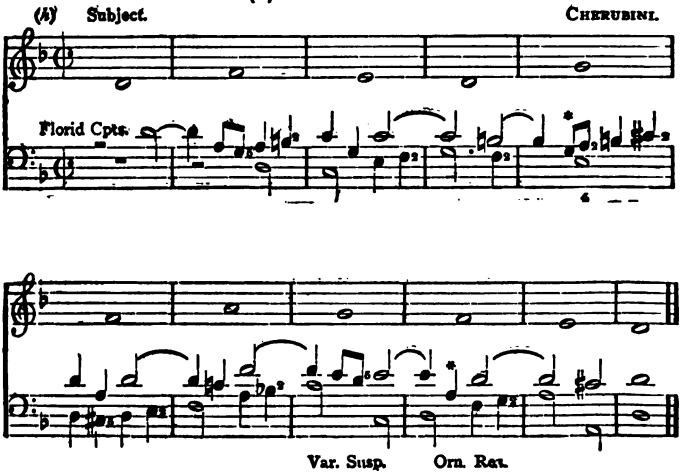
SECOND AND FOURTH ORDERS COMBINED.



THIRD AND FOURTH ORDERS COMBINED.



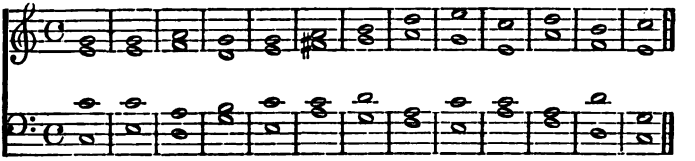
(e.) FIFTH ORDER.



§ 8. Four Part Counterpoint.

(*a.*) First Order.

Fig. 172. (*a*) Cherubini.

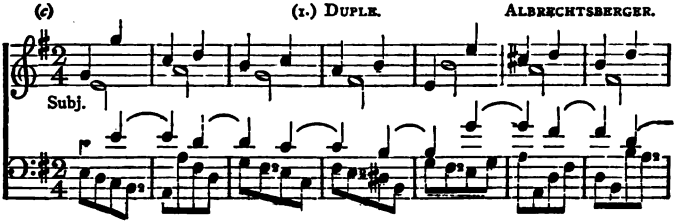


Subject.

(*b*) Subject transposed.

(*b.*) (*c.*) (*d.*) Second, Third, and Fourth Orders combined.

(*c*) (1.) Duple. Albrechtsberger.



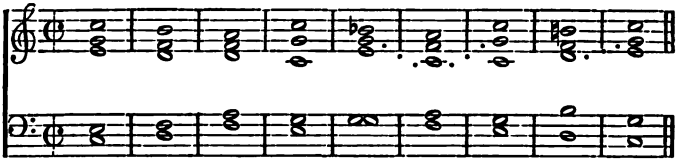
(d) (a.) TRIPLE.

(e.) FIFTH ORDER.

§ 4. Five Part Counterpoint.

(*a.*) FIRST ORDER.

Fig. 173. (*a*) CHERUBINI.



Subj.

Note carefully the crossing of the parts in this and the succeeding examples.

(*b.*) SECOND ORDER. ALBRECHTSBERGER.

(*c.*) THIRD ORDER.

(*d.*) FOURTH ORDER.

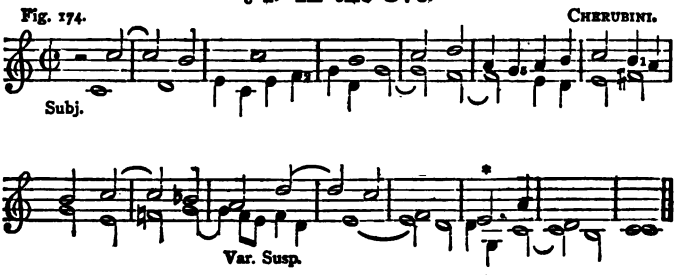
FIRST, SECOND, THIRD, AND FOURTH ORDERS COMBINED.

(*c.*) FIFTH ORDER.

B.—DOUBLE COUNTERPOINT.

§ 1. In the 8ve.

Fig. 174.



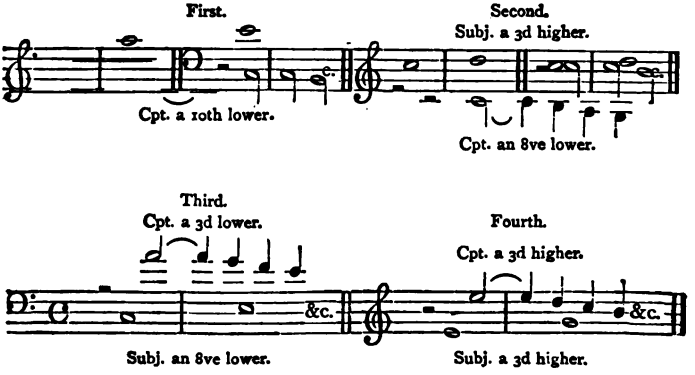
POSSIBLE INVERSIONS.

§ 2. In the Tenth (or Third).

Fig. 175.

CHERUBINI.

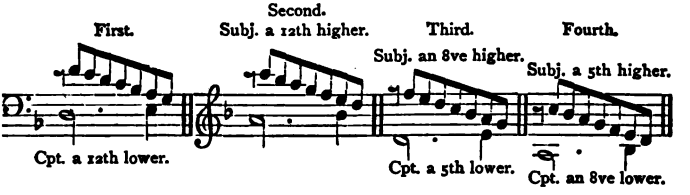
POSSIBLE INVERSIONS.



§ 3. In the Twelfth (or Fifth).

Fig. 176. CHERUBINI.

POSSIBLE INVERSIONS.



§ 4. Extended Double Counterpoint in the 8ve.

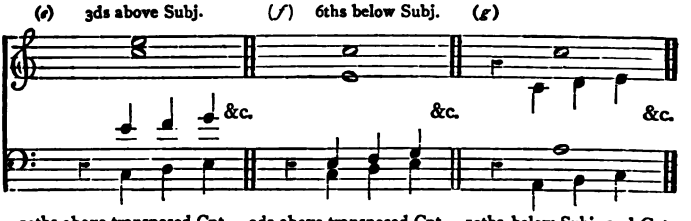
1. TRIPLE COUNTERPOINT.

Fig. 177. (*a*) ALBRECHTSBERGER.

(*c*) 10ths added above tr. Subj. (*d*) 10ths above Cpt.

2. QUADRUPLE COUNTERPOINT.

(*e*) 3ds above Subj. (*f*) 6ths below Subj. (*g*)



10ths above transposed Cpt. 3ds above transposed Cpt. 10ths below Subj. and Cpt.

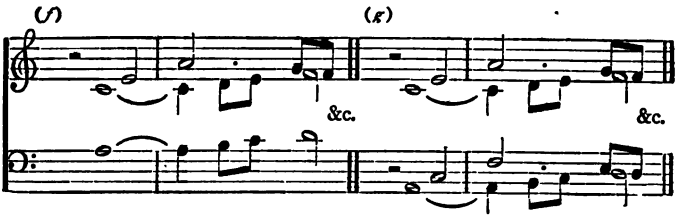
§ 5. Extended Double Counterpoint in the Tenth.

1. TRIPLE COUNTERPOINT.

Fig. 178. (*a*) (*b*) MARPURG.

(*c*) (*d*) (*e*)

2. QUADRUPLE COUNTERPOINT.



§ 6. Extended Double Counterpoint in the Twelfth.

1. TRIPLE COUNTERPOINT.

Fig. 179. (a) CHERUBINI.

Inversion in the 12th.

2. QUADRUPLE COUNTERPOINT.

C.—TRIPLE COUNTERPOINT.

In the 8ve. (*Cf.* Chap. XXXI. C., II.)

PART III.

MUSICAL COMPOSITION.

INTRODUCTORY SECTION—MUSICAL FORM—DEFINITIONS.

NOTE.—*The study of the present part should be preceded by a careful consideration of respectively Part I. Div. I. Int. Sec. Chap. VII.–IX.;* Part II. Div. I. Int. Sec. Chap. XVII., XXVI. to XXVIII., Div. II. Int. Sec.* Chap. XXX.* § 3, notably of those marked with an asterisk.*

PARTS I. and II. of this work exhibit the materials of respectively —I. Melodic Succession, II. Harmonic Combination and Progression, together with the main laws by which these materials are severally regulated. It is now to treat of the application thereto of the element of *form*, of the nature of the principal *forms*—evolved as a result of the mode of sequence of musical ideas—which these materials assume, and into which they are combinable in musical composition.

454. By *form* in musical composition is meant the symmetrical disposition and balance of the main constituent (structural) members or portions of a piece—the plan after which it is fashioned—as exhibited in the nature and the mode of succession of its component ideas and rhythmical masses.

The cardinal necessity for, and paramount importance of, *form* (Art. 67)—by which is meant *design or plan*—as an essential in musical composition, in common with all other artistic production, it would seem needless to enforce, were it not for the erroneous tendency evinced in the present day by a certain school of musical thought to undervalue and even repudiate this element in musical construction as simply conventional, and not based upon necessary underlying fundamental principles. The student is earnestly cautioned as to the fallacious, mistaken, and even preposterous

2. QUADRUPLE COUNTERPOINT.

C.—TRIPLE COUNTERPOINT.

In the 8ve. (*Cf.* Chap. XXXI. C., II.)

PART III.

MUSICAL COMPOSITION.

INTRODUCTORY SECTION—MUSICAL FORM—DEFINITIONS.

NOTE.—*The study of the present part should be preceded by a careful consideration of respectively Part I. Div. I. Int. Sec. Chap. VII.–IX.; Part II. Div. I. Int. Sec. Chap. XVII., XXVI. to XXVIII., Div. II. Int. Sec. Chap. XXII.–XXV., notably of those marked with an asterisk.*

PARTS I. and II. of this work exhibit the materials of respectively —I. Melodic Succession, II. Harmonic Combination and Progression, together with the main laws by which these materials are severally regulated. It is now to treat of the application therein of the element of *form*, of the nature of the principal forms evolved as a result of the mode of sequence of musical ideas which these materials assume, and into which they are combinable in musical composition.

454. By *form* in musical composition is meant the symmetrical disposition and balance of the main constituent (structural) members or portions of a piece, the plan after which it is fashioned—as exhibited in the nature and the succession of its component ideas and rhythmic phrases.

The cardinal principle of musical form is that which consists (Art. 67)—by the development of a principal idea or design—in the continuous musical connection of its more chief ideas, the would [illegible]. The principal forms are 1. The Song-form, either vocal or instrumental, 2. The Fugue, 3.

character of this and of similar views, and his attention directed to the refutation of these, constituted in the foundation of the several structural rules exhibited in chaps. xxxiv.–xxxvii., upon the fundamental Art principles enunciated in Art. 352. He should, moreover, strengthen such refutation by adducing the *historic* argument deducible from the assiduous and patient study of the practical application of these principles in a large collection of classical examples.

A consideration of the history and the nature of the form of musical composition known as a first movement, which, in its capacity to afford satisfaction to the musical sense, has succeeded in supplanting the less flexible fugue—the *Sonata* form—is well calculated to correct overdrawn and ill-founded notions with respect to the function of form in musical art. As based, in the first instance, upon true structural principles of general application, and as constituting the result of the keenly exercised perception and loving industry of no one intellect, however exalted, but of more than two centuries of workers, the comprehensive form in question must necessarily, and is generally held to, have attained to very considerable excellence and perfection.

With regard to its general purpose and character, musical composition is mainly classified as—I. Church, II. Dramatic, III. Chamber Music.

For definitions and descriptions of the several relatively *subordinate* varieties of movement not treated of at length in Part III. of this work, the student is referred to the Glossary.

The following rules, applicable to all musical construction, and deduced from the general principles of musical composition enunciated in chap. xxx. § 3, should not be lost sight of by the student.

I. A purposeless stringing together of unconnected and inconsequent musical ideas as resulting in unintelligibility and satiety, and failing to excite the attention, interest, or even intelligent comprehension of the hearer, cannot be said to constitute musical composition, using the term in its true sense.

II. In order that the *drift*, *purport*, or *meaning* of a piece may be intelligently and pleasurably ascertained, there must be a judicious repetition of its principal ideas, otherwise the presentation of each successive thought serves but to efface the impression of the preceding. While, however, there should be a careful and due economisation of ideas, repetition must not be carried to the extreme of tedium and prolixity; while taking the edge off the

musical appetite, the capacity of the ear for enjoyment should not be exhausted or even overtaxed.

III. The repetition of ideas necessary to secure the symmetrical balance and unity of a piece should be suitably relieved from time to time by judicious episodical alternation.

IV. While avoiding a rigid and mechanical uniformity (*Cf.* chap. ix. p. 77 and § 4), the grouping of periods constituting a given subject (and the remark is applicable to both the subdivisions of these and their combination into larger wholes) should be in character as simple as possible, the *binary* relation being in general preferred, next the *ternary*, afterwards and but rarely, the *quinary*. Periods of 2, 4, 8, 16, &c., bars, and of responsive or complementary symmetrical disposition by way of rhythmical and tonal structure, as respectively antecedent and consequent (Art. 461)—variety being secured by the difference of key resulting from modulation—are those most frequently encountered.

V. Each successive period or thought (whether designed to match or contrast with this) should grow out of the preceding as it were naturally and easily, and without appreciable gap or sense of break.

455. Musical compositions are made up of *movements*. A *movement* consists of a number of more or less connected and developed musical ideas appropriately succeeded, so as to form one continuous whole.

456. There are two principal kinds of movement, which have been respectively termed—I. The *developed* or *sustained* movement, or movement of *continuity*, mainly *polyphonous;* II. The *episodical* or *alternated* movement, or movement of *digression*, mainly *homophonous* in character. (*Cf.* Art. 168.)

457. Of the movement of development, which consists in the more or less elaborated treatment continuously and throughout a piece of one or more chief ideas, the principal varieties are, 1. The Canon, 2. The Fugue, 3. The Sonata forms.

Of these the two former are either vocal or instrumental, the latter mainly instrumental.

Instances of the application of the Sonata form, with necessary simplification and abbreviation, to *vocal* composition, are found in the songs, &c., of Handel, Haydn, Mozart, and other great masters, and their example is becoming increasingly adopted by modern composers.

In this connection it should be pointed out that the irregularity of structure by which *vocal* as compared with *instrumental* compositions are characterised—many vocal pieces being almost devoid of regular form—results mainly from the presence of the allied *words*, the musical form being in the great majority of instances necessarily more or less determined or moulded by these. Considerations of form, then, are obviously more potent in proportion as the music becomes more purely abstract in character and more self-dependent for the production of effect. Still it is eminently desirable, whenever this can be done without detriment to the verbal expression, that a composer should avail himself of the artistic essentials of symmetry, proportion, and balance of parts in the production of vocal composition (*Cf.* p. 77). For this reason the tendency of writers of the present day before alluded to is worthy of encouragement, and their practice in this respect deserving of emulation.

458. Of the movement of episode there are two main varieties—I. The *Simple*, containing only one episode; II. The extended episodical movement, or *Rondo* form, of which a variety of species are practised, and constituted in the alternation of one principal subject with a greater or less variety of different episodes.

In a *Rondo* the *unity* of the composition is secured by the constant *coming round* after each episode to one chief subject in the principal (tonic) key, the *variety* by the occurrence of the several episodes (of which *one* not unfrequently consists of a working of the subject after the manner of the second part of a first movement, and *one* involves a change of *mode*) in each time a *different* key.

As examples of the episodical form may be cited—(1) The Song form, (2) The Rondo.

While mainly characterised by a progressive development of one or more thoughts (subjects), a movement of continuity necessarily comprises (for purposes of relief) a greater or less amount

of episodical matter. Similarly an episodical movement appropriately and desirably admits of a certain development. There are, moreover, forms almost equally characterised by the several elements of development and episode (*Cf.* Art. 454, II., III.).

The great plastic element comprised in the musical device known as ***imitation***, constitutes—as pre-eminently determinative of ***form***—an important structural feature in the higher orders of (***polyphonous***) musical composition.

CHAPTER XXXIV.

Imitation.

459. A FREQUENT, highly effective, and essential musical device is that known as imitation, and consisting in the repetition or reproduction of tonal successions or figures of greater or less extent under varying tonal and rhythmical aspects, and upon the several accents of the measure and intervals of the scale.

See fig. 180, which affords examples of imitation of, in each instance, a given subject upon different bar accents and at the several scale intervals.

Imitation is closely connected with and commonly forms a particular application of double counterpoint (Art. 107). As in the highest degree conducive to the attainment of the structural continuity and development of idea distinguished by the cardinal musical attributes resulting from the application of the great artistic essential ***design***, and enunciated in Arts. 352, 454, its judicious employment forms a characteristic and main structural feature of what as more or less regulated by and based upon a ***plan*** of construction, and hence distinguished from such as are thrown together inconsequently and with an absence of meaning, constitute the higher orders of musical composition. The manifestation of ***unity*** presented in the reiteration of one single idea, and that of ***variety*** exhibited in the varied aspects and diversified attitudes of the same, induced by imitation, serve respectively to impress this upon and to charm the attention of the musical

hearer. (Art. 454 II.) While still forming perhaps the most important integral feature of *modern* classical writing, the *imitative* style was that pre-eminently adopted by the old contrapuntal writers (107 and 352 I.) As based upon fundamental and natural principles, it constitutes a main bond of union—the one thing common—between schools of composition of every age. Copious exemplification of the function of imitation in music is to be found in the works of the great imitative composers Bach, Handel, Haydn, Mozart, Beethoven, Mendelssohn, &c.

460. Imitation may be effected at any interval—*i.e.*, may be initiated by any sound of the scale (fig. 180).

461. A phrase or other tonal succession proposed for development by way of imitation, whether it contains one or more distinct and separable ideas, is variously termed the *subject, theme, guide, proposition,* or *antecedent* (Lat. *dux*, a leader); its imitative repetition the *answer, response, counter-subject, adversative* or *consequent* (Lat. *comes*, a companion. (See fig. 180, where the extent of respectively the subject and the answer is indicated by means of asterisks.)

EXAMPLES OF TONAL IMITATION.

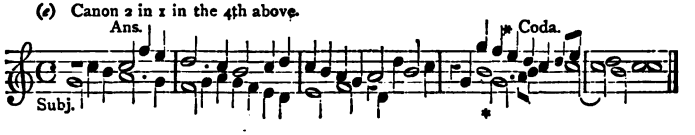
Fig. 180. (*a*) Canon 2 in 1 in the 2nd above. CHERUBINI.

(*c*) Canon 2 in one in the 3rd above.

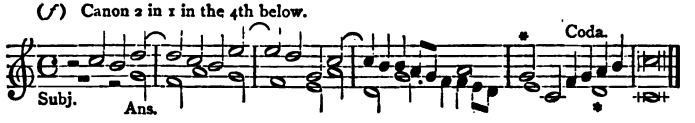
In fig. 180 (*c*) the regular imitation at the interval of a third above the subject, and at the distance therefrom of a *whole bar*, is (*a*) broken off at the third minim (viz., *E*) of bar 3, as indicated by the second asterisk, (*b*) resumed *rhythmically* by the two crotchets terminating the same bar, and (*c*) resumed *both tonally and rhythmically* with the beginning of bar 4, but this time at the distance of only *half a bar*, as denoted by the daggers.

(*d*) Canon 2 in 1 in the 3rd below.

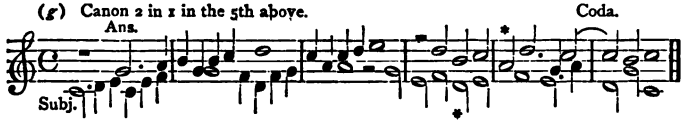
(*e*) Canon 2 in 1 in the 4th above.



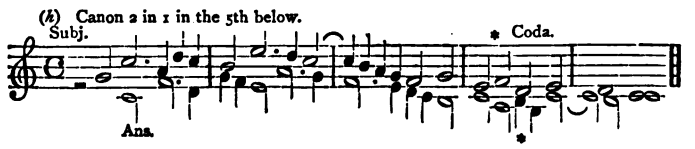
(*f*) Canon 2 in 1 in the 4th below.



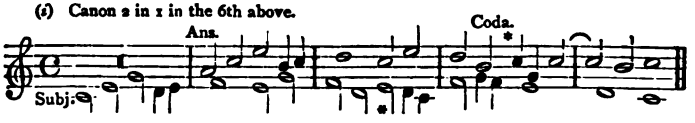
(*g*) Canon 2 in 1 in the 5th above.



(*h*) Canon 2 in 1 in the 5th below.



(*i*) Canon 2 in 1 in the 6th above.



(*j*) Canon 2 in 1 in the 6th below.

(*k*) Canon 2 in 1 in the 7th below.

(*l*) Canon 2 in 1 in the 7th below.

(*m*) Canon 2 in 1 in the 8ve below.

NOTE.—The asterisks employed to indicate the extent of the imitation in the several examples, serve also to reveal their structure, in each instance, as specimens of the form of composition known as Finite Canon. (For a description of this form, together with an explanation of the term Coda, see chap. xxxv., Art. 465).

Both the subject and the answer may be of any required extent, and the latter may be initiated at any point in the course of the former. (Art. 107, 108.) It should be noted, however, that as respectively (*a*) detracting from the merit in construction, and (*b*) tending to obscure the clear and adequate perception of the subject, either too long or too short an interval between the respective entries of subject and answer should be avoided.

Subjects differ in degree as to their susceptibility of imitative treatment of the different kinds, those characterised by a preponderance of *conjunct* progression being in general most versatile of manipulation.

A subject well adapted for a large variety of imitative treatment is termed *polymorphous.*

Imitation may be employed throughout any proportion of a composition, and in any number of parts. Moreover, other additional, free, or *complementary* parts may be combined with the *imitative* parts for the purpose of completing, diversifying, and enriching the harmony by the introduction of appropriate modulation, cadences, &c. (*Cf.* Art. 348.) Not unfrequently with *short* imitations the answer itself becomes a new proposition for imitation in the part of and by the original subject. (Fig. 181.)

Fig. 181. Subj. Answer. CHERUBINI.

462. Imitation may be classified in accordance with

I. Its *tonal structure*—the character, *i.e.*, relatively with the subject or model of the succession of intervals involved in passages selected with this object—as (1) *real* (regular, restricted, or strict); (2) *tonal* (irregular, unrestricted, or *free*); (3) *convertible;*

II. Its relative *direction*—the species, *i.e.*, of *progression* or *movement* employed—as (1) *simple* or by *similar* movement; (2) *inverse* or by *contrary* movement (*cf.* Art. 344); (3) by *retrograde* movement;

III. Its *rhythmical structure*—as (1) by *augmentation;* (2) by *diminution;* (3) with *reversed accents;* (4) *interrupted;*

IV. Its *extent*—as (1) *periodic,* (2) *canonic.*

I. (1) *Strict* or *real,* sometimes termed *canonic,* imitation is that wherein the answer rigidly adheres to the order and precise *quality* of the intervals prescribed by the subject; constituting, in fact, with, if necessary, the aid of *modulation,* an exact reproduction of this at whatever pitch, (2) *free* or tonal imitation—commonly *within the key,*—that wherein, although the *order* of the intervals forming the subject is retained, a variation in the *quality* of these, as respectively major and minor, may, in order to avoid either departure from the original key, or to secure a more varied and appropriate effect, be adopted. (*Cf.* Arts. 60, 61, 337–339.)

When maintained throughout the course of a composition, *strict* imitation is termed *canonic,* and the term *canonic* is commonly employed in imitations of even limited extent as a synonym for *real* (*Cf.* IV.) This variety, it is obvious, as most easy of evolution therein, is found almost exclusively when *within the key,* and very generally when even a change of key is resorted to, in either the 8ve, fourth, or fifth, being, in the *former* case, as a consequence of the difference of *quality* which would result from the adherence to a single key, seldom practicable with the other-scale intervals. (See this exemplified in fig. 180.)

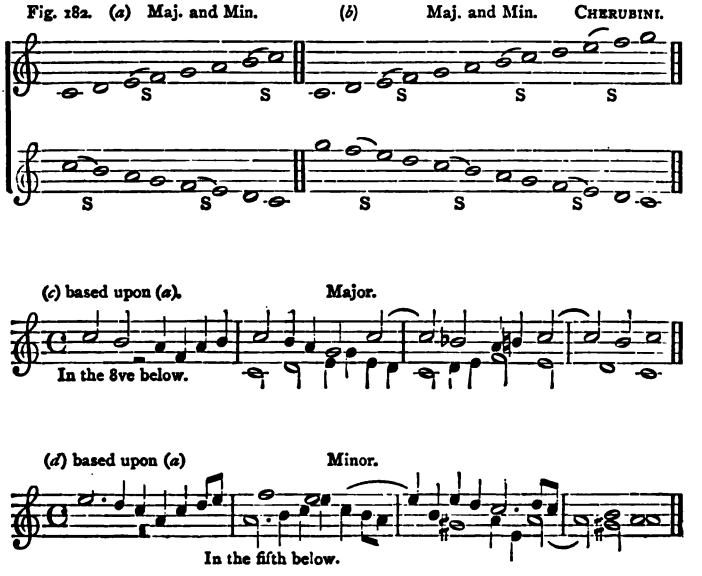
I. (3) A convertible imitation is one written in double (*i.e.*, *invertible*) counterpoint.

II. (1), (2) In imitation by similar movement adherence is made in the answer to the exact order of melodic ascent and

descent (progression) taken by the subject (see fig. 180, &c.), while (2) in that by inverse or contrary movement this order is *reversed; ascending* progressions of the subject being answered by corresponding *descending* progressions of the answer, and *vice versa.* (See fig. 182, &c.)

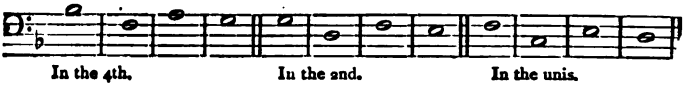
In the construction of imitations by *inversion—i.e., inverse* (contrary or retrograde) movement (*cf.* Art. 344), it is customary and convenient to employ as in that of double counterpoints, tables (fig. 141 to 143) for purposes of ready reference, of the inverted scales from which the subjects are, in any instance, selected. Fig. 182 affords at (*a*), (*b*) the requisite tables for *free*, at (*g*), (*h*), those for *strict* imitation by contrary motion; the former variety being ordinarily effected at the interval of either the 8ve, fifth, fourth, second, or unison (fig. (*c*) to (*f*)), the latter at that of the major and minor seventh or second, or the major and minor sixth or third. (Fig. (*i*) to (*k*).)

I. FREE (OR SIMPLE) INVERSION.



(*e*) based upon (*b*).

ALBRECHTSBERGER.



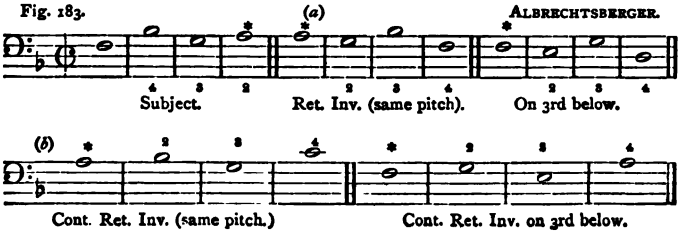
II. STRICT INVERSION.

(*g*) Major Mode. (*h*) Minor Mode.

(*i*) based upon (*g*) Major. CHERUBINI.

II. (3) In imitation by retrograde movement (variously termed *al rovescio*, *per rectè et retrò*, *reversion*) which, as in common with other modes used by the old writers, pedantic, and necessitating the complete transformation of the subject proposed, is now but little practised, presentation is effected of this in *reversed* or *inverted* order, and beginning with its final note.

Fig. 183 presents instances of respectively at (*a*) imitation by similar (effected on either the last note of the subject or on one higher or lower than this), at (*b*) imitation by contrary retrograde movement.



III. (1), (2) In imitation by respectively augmentation (fig. 184 (*a*)) and its converse diminution (fig. (*b*)), the answer consists severally of longer and of shorter than the corresponding notes of the subject.

As in the one case wherein the answer employs notes generally twice (sometimes four or eight times) as long as those of the subject, the former tends soon far to outstrip the latter; while in the other, in which use is made in the answer of notes of less duration than (generally a half) those of the subject, this latter tends soon to overtake the former, the species of imitation under consideration are ordinarily employed only for short successions at a time.

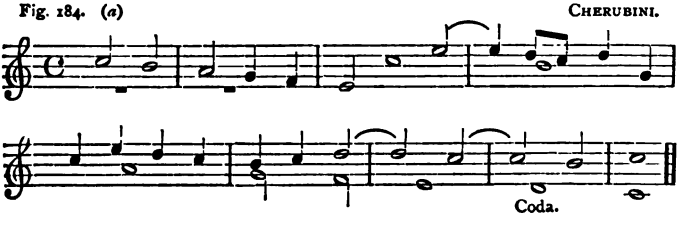
III. (3) In imitation with reversed accents (*per arsin et thesin*) the accentual order of the subject is totally reversed in the answer. (Fig. 180 (*k*).) (Gr. ἄρσις, elevation; θέσις, depression.)

Should the *former* begin upon a *strong*, the *latter* receives initiation upon a *weak* accent and *vice versâ*. The term *per arsin et thesin* is sometimes applied to *inverse* imitation.

III. (4) In interrupted imitation the answer consists of the notes of the subject modified for the attainment of a certain variety of effect by the insertion of suspending interpolated rests. (Fig. 184 (*c*).)

IV. (1) *Periodic* imitation is that wherein imitation is effected of only a *portion*, (2) *canonic* that wherein strict imitation (note for note), whether tonal or real, is effected of the *whole* of a proposed subject. (*Cf.* I.)

Fig. 184. (*a*) CHERUBINI.



(*b*) CROTCH.

463. Subject to the modifications necessary to escape faults of combination and progression, the several species of imitation may be combined.

CHAPTER XXXV.

Canon.

464. A canon (Gr. *κανών, rule*) is a continuous or developed (*polyphonic*) musical composition in which strict imitation of the proposed subject or subjects is maintained (note for note) at a given interval from beginning to end. (See figs. 180, 185.)

In a canon the parts successively and without break imitate the subject note for note at any given interval.

Canon, formerly termed perpetual or limited fugue, constitutes pre-eminently a mode of musical construction according to *rule*, and was much affected by the earlier composers with whom it was a characteristic to indulge in structural elaboration, and the concoction (to the ignoral often of sentiment and feeling, and as a consequence of handling novel materials) of musical enigmas and puzzles of every description. Some find an explanation of the designation *canon* in that of the symbolic directions (*canoni*) applied in the solution of the specimens termed *circular* or *infinite*, when displayed in the form known as *close* canons, to denote the entry of the several parts. (*Cf.* Art. 465.)

The period of the early contrapuntists was (from the nature of the case) necessarily and markedly one of *probation*, of continually widening discoveries with regard to the capacities of musical sound, in fact of *exercise* in musical *construction* and *combination*. (*Cf.* Part II. Div. II. Int. Sec.) It was a time rather of search for fresh accumulations and new effects—a search stimulated in the

highest degree by the *novelty* of the field of labour—than one of application of ascertained and well proved materials in the evolution of artistic production. Hence it is only natural to find as characteristic of the period in question an exaggerated and over-devotion to skill and elaboration in construction and design, not unfrequently degenerating into pedantry, and attended by a corresponding imperfect recognition of the function and province of imagination and feeling—in fine, the exaltation of the means above the end.

465. Canons are ordinarily classified as either I. *Finite*, or II. *Infinite*.

I. A *finite* canon is one terminated by either (*a*) the successive cessation of the constituent parts, or (*b*) the addition of an extraneous, complementary *coda* not rigidly in canon (figs. 180 note, and 185 (*a*)). II. An *infinite* or *perpetual* (sometimes termed circular) canon is one susceptible of continuous repetition without break *ad infinitum* (fig. 185 (*b*)), the points of alike repetition and termination being notationally indicated by either double bars or severally a sign 𝄋, and a pause 𝄐. (See fig.)

I. FINITE CANON.

Fig. 185. (*a*) Canon 4 in 1 in the 3th, 8ve, and 12th below. ALBRECHTSBERGER.

NOTE.—The asterisks denote the extent of the imitation in the several parts.

II. INFINITE OR PERPETUAL CANON.

NON NOBIS DOMINE.

(*b*) Canon 3 in 1 at the 4th and 15th below. BYRD.

Non no - bis Do - mi - ne non no - bis, Sed
Fine.
Non no - bis Do - mi - ne non no - bis,
Non no - bis Do - mi - ne non
no-mi-ni Tu - o da glo - ri - am, Sed no-mi-ni
Sed no-mi-ni Tu - o da glo - ri - am, Sed
no - bis, Sed no-mi-ni Tu - o da glo - ri-
Tu - o da glo - ri - am, non no - bis Do - mi-
no-mi-ni Tu - o da glo - ri - am non no - bis
- - am, Sed no-mi-ni Tu - o da glo - ri - am.

The term *coda* or tail-piece is applied generally, and in most forms of composition, to denote an extension either *melodic*, or *harmonic*, or *both*, of the *codetta*. (Art. 106.) It sometimes embraces, and proportionately with the extent of the piece in which it is employed, a greater or less number of complete strains, and may desirably include, as in the higher musical forms, a certain development, and possess very considerable importance. (*Cf.* Chap. xxxvii. § 3, 1.)

The circular canon was often written in a single line, and with an *absence* of indication (*canoni* (*cf.* Art. 464)) as to either the point of entry of the several voices, or the interval at which the imitation was to be effected. It was then termed not only *close*, in contradistinction to the clear display in score known as *open*, but also *enigmatical* or *riddle* canon.

The term circular has also been applied to denote a variety of canon characterised by a progressive modulation through the whole *cycle* or *circle* of *keys*.

A canon may be based upon any allowable combination of the several species of imitation. (*Cf.* Art. 463.) Thus there are canons by inversion, by augmentation, by diminution, *per arsin et thesin*, &c.

As constituting a special application of these, canonic construction is governed by the laws respectively regulating imitation and double counterpoint. (*Cf.* Art. 459.)

466. A canon may comprise any number, *ad libitum*, of distinct subjects.

467. Canons are designated in accordance with

(*a*) The species of imitation employed;

(*b*) The number of distinct subjects with answers which they comprise;

(*c*) The interval or intervals at which the imitation is effected;

—these particulars being ordinarily specified at the beginning of the piece.

Thus there are canons 2, 3, 4, &c., in one—*i.e.*, in 2, 3, 4, &c., parts with only a single pattern or subject (proposed in one part and imitated in the others).

4 (&c.) in 2, with 2 (&c.) patterns and 2 (&c.) imitations.

6 (&c.) in 3, with 3 (&c.) patterns and 3 (&c.) imitations.

5 in 2 with 5 parts and 2 subjects, one subject receiving imitation in *two*, the other in *one* of the parts.

7 in 2 with 7 parts and 2 subjects, one subject receiving imitation in 3, the other in two of the parts, &c. &c. &c.
And this in the 8ve or any other interval above or below the subject. (For further exemplification of canonic designations, see figs. 180, 185.)

468. A common form of the perpetual canon two, three (or any number of parts) in one (pattern melody) in the unison is that afforded in the *round*, a composition for equal voices in which the several parts successively and continuously repeat one same melody *ad libitum.* (Cf. *Rondo.*)

Good examples of the *round*, a form of very considerable utility and value in the early study of musical composition, are afforded in the works of the English composers of the last and the present centuries, and notably in those of Sir Henry Bishop.

It may be laid down as a general principle, that canonic writing is especially valuable as tending pre-eminently to secure in its steady though judicious exercise a power of structural continuity and thematic development in musical production.

The canon form is sometimes and desirably employed at the conclusion of this with the subject and answer of a fugue—an effect termed by the Italian contrapuntists, by whom it was frequently resorted to, *stretto maestrale.*

CHAPTER XXXVI.

The Fugue.

§ 1. Classification.

469. A fugue is a developed (*polyphonic*) musical composition based upon one or more subjects which receive presentation, and are imitated not always in strict canon, but with occasional digressions and in conformity with certain strict structural rules—a fixed general plan involving an application of double counterpoint—in the several parts throughout the movement.

The designation *fugue* (Lat. *fuga*, flight) employed by the old writers (to whom the modern form was unknown) to denote imitative writing in general, is supposed to have been suggested by the (as it were) *flight* of the subject in its several aspects before the pursuing answer.

470. In accordance with the number of subjects which they possess, fugues are either I. *Single*, or II. *Double;* in accordance with the nature—the scale relation, relative compass, progression, and rhythmical structure—of the answer made to such subjects they are classified as either (1) *tonal*, (2) *real*, or (3) by *imitation.*

I. A *single* fugue contains only one principal subject for imitation. II. A *double* fugue is one where at least *two* co-ordinate principal subjects are worked together.

Fugues with *three* subjects are sometimes known as *triple*, with *four* as *quadruple* fugues.

In a real fugue the answer is (with one *occasional* exception) that, viz., in the 8*ve*, invariably and strictly made at the interval of either a perfect fifth above, or (its inversion) a perfect fourth below the subject. In a tonal fugue this mode of answering the subject (which, in this species, commonly begins upon either the tonic or the dominant of the scale) is liable to certain modifications, while in a fugue by imitation or more or less regular piece in fugal style, there is no restriction as to the interval by which the subject is answered, the imitation being *free.* (Art. 462.) Main varieties of the fugue by imitation are respectively those by (*a*) inversion, (*b*) augmentation, (*c*) diminution. Reversion or retrograde motion is also resorted to in the development of a fugue.

Fugues of whatever kind may possess any number of free (either vocal or instrumental) parts; and one of these may be a chorale. Fine examples are to be found of the fugue based upon a chorale.

§ 2. Materials of the Fugue.

471. The main and primary materials of the fugue consist of (1) the *subject* (Lat. *Dux*, a leader), (2) the

answer (Lat. *comes*, a companion), (3) the *counter-subject*. A fugue is also further characterised by the combination of these elements comprised in respectively (4) the *episode*, (5) the *modulation*, (6) the *stretto*, and (7), in most fugues of any extent, the *pedal-point*.

(1.) The Subject.

The subject of a fugue should be chosen, as far as possible, in obedience to the following conditions :—

Both in character and extent, it should be such as to facilitate recognition; (1) being neither, that it may not lose interest, too long nor, in order to permit of ready condensation in stretto, too short (seldom exceeding, even in quick time, eight bars); (2) presenting a complete, distinctive, attractive musical thought, and (3), as comprising two or more independent and characteristic *figures* (Art. 105), one easily lending itself to episodical (*Cf.* (4)) and stretto (*Cf.* (6)) working. In short, it should be, as far as possible, *polymorphous* in character. (Art. 461.) Moreover, it should, for purposes of ready and varied inversion, (*a*) be written in, at all events, double counterpoint in the 8ve; thus (and for reasons of *compactness*, and in vocal compositions of *compass*) rarely exceeding this interval in extent, (*b*) involve no modulation except into the dominant, and in the real fugue, since this would lead the answer too far away from the original key, no modulation at all. In a fugue by imitation, the subject is generally short, frequently an *attack*. The subjects of a double fugue should be well individualised and contrasted (Art. 360), while still in keeping and combinable with both each other, and the common counter-subject. These co-ordinate subjects, if two in number, are very frequently announced conjointly at the outset. Sometimes, however, and frequently when *three* or more subjects are employed, although no uniformity of practice is found with respect to this, each receives a *separate* followed by a *combined* presentation and working. When proposed, during the course of the fugue, in a fresh key as the result of modulation, the subject, to prevent indefiniteness of effect, should (save exceptionally) be associated with accompaniment.

(2.) The Answer.

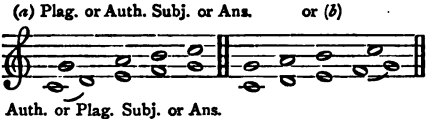
The *answer*, *response*, or *consequent*, consists of a repetition or imitation of the subject in a different part, and at a different

pitch. As previously stated, it is the nature of the answer which determines the particular species of fugue. (Art. 470.) In real fugues the answer is (with one occasional exception—that, viz., in the 8ve) invariably effected at the distance of a fifth above or its inversion a fourth below the subject. In fugues by imitation, it may be made at any interval, although the order adopted in a real fugue is commonly followed, while in tonal fugues it is restricted by the conditions specified in the following rules.

(a.) Rules for Answering a Tonal Subject.

The mode of construction of the answer proper to a tonal fugue, which, as conducing to the preservation of the unity of the composition, and the predominant character of the principal key, has been in substance retained in practice by modern composers, may be best explained by a reference to the old forms of scale known respectively as *plagal* and *authentic*. (See Appendix, *Modes of the Scale.*) An *authentic* scale extended from *tonic* to *tonic*, the 8ve being divisible at the *fifth* or *dominant*. A *plagal* scale, on the other hand, stretched from *dominant* to *dominant*, the *tonic* forming the intermediate point of bisection. In the tonal fugue an authentic subject or portion of a subject requires a corresponding plagal answer and *vice versâ*. Moreover, a fragment of a subject lying within one division of the bisected 8ve (whether plagal or authentic) should be responded to from the *same* portion of the *corresponding* 8ve, the extremes of tonic and dominant being almost invariably interchanged. Since such a process necessarily involves the substitution (as equivalent) of a progression of *four* notes for *five*, and *vice versâ* (see fig. 186), it follows that the construction of a tonal answer frequently necessitates an amount of alteration in the order and character of its constituent intervals as compared with those occupying corresponding places in the subject. An examination of a preponderance of existing classical models will shew, however, that such alteration (1) should be made as *near* the extreme tonic or dominant (whether approaching or leaving this) as possible; (2) should not (save exceptionally) exceed the interval of a second (*Cf.* fig. 186); (3) should not interfere with, but, on the contrary, as far as possible, be made with a view to *preserve* the general *contour* or *figure* of the subject; (4) should, in the case of *subject modulation* into the *dominant* key, substitute in order to effect a return to, and thus confirm the princ[illegible] corresponding transition into the *tonic*.

Fig. 186.



NOTE.—Fig. 186 exhibits at (*a*) and (*b*) the orders of correspondence between the respective divisions of the Authentic and the Plagal 8ve commonly adopted in answering a tonal subject, the *slurred lower* notes being severally represented in each case by the single note above them.

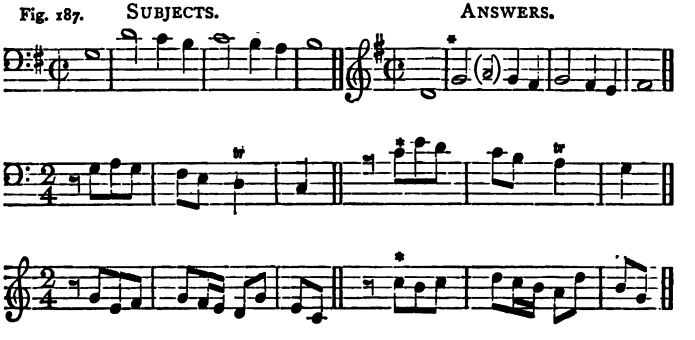
The conditions specified in (3) and (4) not unfrequently necessitate the presentation of portions of the answer not only (*a*) in exact or *real* imitation in the fifth above or fourth below—*i.e.*, virtually in the key of the dominant, but also (*b*) in the fifth below or fourth above—*i.e.*, virtually in the key of the *subdominant*, still modified, however, in the latter case, by the general interchange wherever these intervals occur, and especially when they are in any way *emphasised* by, *e.g.*, duration, repetition, or constitution as the *extremes* of a subject-figure, of tonic with dominant. (5) The answers to tonal subjects, characterised by *chromatic*, are most readily determined by a reference to the underlying fundamental *diatonic* progressions.

The foregoing rules receive illustration in the following classification and analysis of subjects derived from classical sources. (Fig. 187.)

NOTE.—In the following examples, selected, unless otherwise headed, from Albrechtsberger, the notes modified in the several answers in obedience to Rules 1–5, are severally indicated by asterisks.

I. SUBJECTS WITHOUT THE CHARACTERISTIC SEVENTH OF THE KEY.

Fig. 187. SUBJECTS. ANSWERS.



II. SUBJECTS POSSESSING THE CHARACTERISTIC SEVENTH OF THE KEY.

(1.) MAJOR.

Dominant Phrase.

The Same.

Plagal Subj. Auth. Ans.

Tonic Phrase. Dom. Phrase.

FIRST SUBJECT. EBERLIN.

ANSWER.

SECOND SUBJECT. EBERLIN.

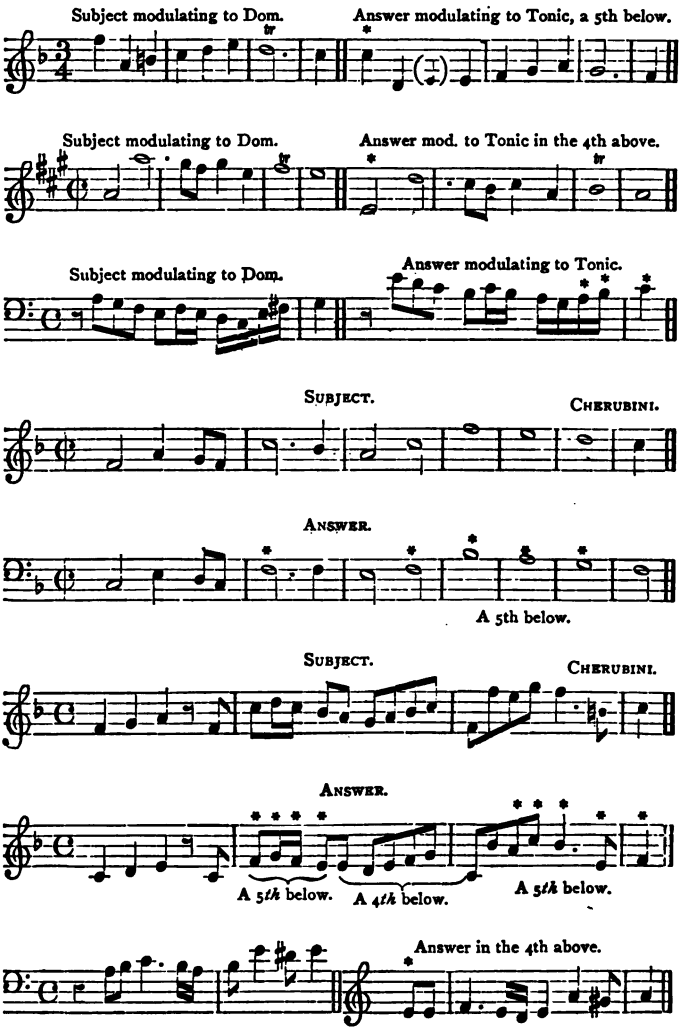
Answer.

(2.) Minor Subjects with Characteristic Second and Seventh.

Note.—The answers to minor diatonic subjects are for the most part *real*.

Note.—The foregoing subject, although characteristically noted with one flat less in the signature than normal, is really in *F* minor, beginning upon the *dominant* of this key (viz. C), and receiving a response upon the *tonic* (F). (See Appendix, *Specimens of Analysis*.)

III. SUBJECTS MODULATING TO DOMINANT KEY.



The most effective and musician-like mode of answering a given fugal subject is to be determined solely as the result of musical study and experience, the only guiding principle of general application being that if, on the one hand, too great a departure from the original subject-figure be thereby induced, the answer must not be *tonal*, and if, on the other (as is generally the case with subjects terminating by means of a *modulation*), the principal key be too widely, and hence unnecessarily, and to the violation of the unity of the piece, deviated from, and thus the tonality unadvisedly —and with an absence of compensating effect—disturbed, the answer should be rather *tonal* than *real*.

(b.) Other Points.

The only *durational* modifications of the subject-order, permissible in the answer, in either a tonal or a real fugue, are (1) the abbreviation for the sake of point of its *first* and (2) variation of its *last* note; (3) the occasional replacement, for purposes of either effect, or by reason of vocal exigency, of a note, by its higher or lower 8ve. (*Cf.* fig. 187 †.)

The *relative accentual* order of the answer is of course identical with that of the subject, strong accents being responded to by strong, and *vice versâ*. Their *absolute* order, however, may differ, a *first* bar accent in the subject being responded to by a *third* in the answer, and so forth. (*Cf.* fig. 187.) In the fugue by imitation the answer is constituted in obedience, in any given instance, to the laws governing the particular species of imitation selected, and the composition correspondingly designated as, *e.g.*, by *inversion*, by *augmentation*, &c.

The answer may enter either (1) during the course of the subject, (2) upon an abbreviatura (Art. 108) struck upon the last note of the subject, (3) as directly continuative of the subject, or (4) after a *coda* or *codetta*. (Arts. 106, 465.) Of these several modes of entry, the first is probably to be regarded, from its frequency of employment, as normal.

The function of the coda is (1) to connect the subject or the answer with the succeeding counterpoint (counter-subject), (2) to prepare the modulation into the key in which such subject or answer is to be exhibited. With modern composers the coda to the last answer of the exposition of the fugue is often and desirably of considerable extent, being prolonged so as almost to constitute a species of episode in the movement. Such a prolonged

coda serves (*a*) to increase the interest and expectancy as to the reappearance of the subject, (*b*) to relieve the easily induced monotony of unbroken response incidental to the fugue form, (*c*) to furnish material for future episodical working in the course of the piece. (*Cf.* § 3, II.)

(3.) The Counter-Subject.

This term is applied to the counterpoint accompanying either the subject or the answer. For purposes of varied presentation by means of inversion, it should be written in, at least, double counterpoint in the 8ve. If exhibited in union with the subject upon its first presentation, the counter-subject constitutes a veritable *second* subject of equal importance with the first, and intended for *working*, and the fugue is then *double* or *of two subjects*. (See §§ 1 and 2 (1).) The student should carefully discriminate between the *second* subject of a double fugue and the counter-subject *proper*, both effects being frequently denoted by the designation, *counter*-subject. In counter-subjects *proper*, since intended to accompany both the subject and the answer, slight structural modifications are, if necessary, to enhance the effect, as, for instance, in the fugue with modified answer (*tonal* fugue, *i.e.*), permissible.

A fugue may contain (with the exception of one) as many counter-subjects as it possesses distinct parts. Frequently, however, and in compositions of many parts, almost inevitably, there are found *complementary* or *ad libitum* parts (Art. 348), which, unlike the counter-subjects, are susceptible of any modification, and even partial or entire replacement. The counter-subject, which, as of great importance and value in whole or in part for episodical treatment, should be as interesting, individual, and distinctive in character as possible, need not invariably accompany the subject and answer throughout the fugue.

(4.) The Episode.

The digression or episode, which is of indefinite duration, but often short, consists, in general, of imitative treatment of brief portions of either the subject, answer, counter-subject, an entirely new theme in keeping with the principal subject, or of these combined, and introduced into the fugue for the purpose of (*a*)

relieving the monotony, (*Cf.* 2 (*b*)) of which this form, with its characteristic ***unity***, is peculiarly susceptible (§ 4 (1)), (*b*) preparing the modulation for the exhibition of the subject in new keys, (*c*) defining and laying bare before the hearer the structure of the fugue by the clear separation of the several entries of the subject.

(*a*) To ensure the attainment of ***unity***, the episode, which, however, for purposes of greater contrast, may be entirely extraneous in character, is commonly and desirably formed of one or more of the characteristic fragments or figures, into which good fugal with their counter-subjects are usually resolvable (*Cf.* (1) (3)), while, (*b*) to gain ***variety***, it is indispensable, from the nature of the case, that each successive episode should be constituted of either (1) a different fragment of the subject, or (*b*) a different "setting" of a previously utilised fragment. Fugal episodes effectively take the form of strict canon.

(5.) The Modulation.

It may be laid down as a general rule that modulation in a fugue should be effected (*a*) not too frequently, (*b*) principally ***gradually***, and into ***relative***, as distinguished from, ***extraneous*** keys, beginning with that into the dominant, passing through—suitably with the length of the composition—a more or less extended variety of related keys (including those enumerated in the table, fig. 136 (*z*)), and finally returning (often through that of the ***subdominant***) to close in the original key.

Beyond the foregoing general rule based upon the governing principle of musical ***relation***, there exists no invariable law as to the conduct of modulation in a fugue. The practice and manner of composers differ, and the only sure guide is that afforded in the analysis of the specimens furnished by the works of the great masters. For the general function of the modulation into the tonic with altered ***mode***, see § 3, V. Modulation should be effected ***imitatively***.

Imitation of the subject at any interval but the fourth or fifth constitutes a ready appliance for initiating a modulation.

On no account should the modulation be suffered in any degree to obscure or supersede, either by undue preponderance or unusual and startling character, the ***thematic development*** paramount in the fugue form.

(6.) The Stretto.

The stretto (Ital. *stretto*, close; Lat. *stringere*, to bind together) consists of the *shortening* or *compression* of the fugal imitation effected in the closer approximation or *overlapping* of the subject and answer—their mutual *attack* at earlier points than in their first presentation. The term is specially applied, and sometimes restricted, to denote the *closest* obtainable overlapping of the subject and its imitations.

The merit of the stretto consists in the creation of interest by (1) the closer and closer approximation, by way of *interweaving*, of subject and answer effected in its progress and development, the closest strettos and contrapuntal *wrestlings* being invariably reserved for the termination of the fugue. (2) The variety, number, and unexpected character of aspects (or attacks) in which, as a result of the employment of the various devices of imitation, the subject and answer are presented.

To secure an (in the fugue form) essential and healthy variety, one and the same stretto should never be *exactly* repeated, and without the modification resulting from either inversion or a different contrapuntal setting. (*Cf.* (4).)

It will be seen from the foregoing that the stretto constitutes a very important application of the device known as imitation.

If indispensable towards the creation of a stretto, (*a*) the subject and answer may be subjected to slight modification, (*b*) their order of entry may be reversed, or (*c*) a fragment of either (1) the subject or answer coda, (2) the counter-subject, or (*d*) even an entirely new subject, may be resorted to. The stretto is often (and effectively) placed upon a pedal.

(7.) The Pedal Point.

A fugue commonly terminates with a pedal point upon (in specimens of any extent) respectively the dominant and the tonic, and in an extreme (almost invariably the *lower*) part.

Upon the pedal should, as far as possible, be superposed fragments of the subject, the answer, the counter-subjects, the episodes, and previous materials generally of the fugue recapitulated and re-echoed, as it were, in the closest obtainable stretto.

A *tonic* should be invariably preceded by a *dominant* pedal.

The pedal upon the dominant followed by the tonic, constitutes, in its confirmation of the principal tonality, after the

restless modulation of the busy fugue, an *elaboration*—an *ornate development* commensurate with the extent of the movement—of the chordal progression known as the *perfect cadence*. (*Cf.* Art. 311.)

§ 3. Conduct of the Fugue.

A fugue may be written in any number of parts from two upwards. In fugues of more than two parts the order of entry of these regulated by (*a*) the character of the subject; (*b*) the composer's discretion; (*c*) the *pairing* of *voices* determined by the *quality* and *compass* of these, as respectively soprano and tenor, contralto and bass, is, obviously, subject to considerable variation. The following (for fugues in four parts) (fig. 188) are effective modes of arrangement :—

Fig. 188.

Order of Entry.	Number of Mode of Entry.							
	1	2	3	4	5	6	7	8
Subj.	S	S	A	A	T	T	B	B
Ans.	A	A	T	S	A	B	T	T
Subj.	T	B	B	B	S	S	A	S
Ans.	B	T	S	T	B	A	S	A

Fugues differ considerably as to the exact order and proportions in which their characteristic portions are displayed. Still most regular and extended compositions of this order are based upon a general plan of construction of which the following is an outline :—

I. The *repercussion* or *exposition*. The exposition exhibits the first and alternated entry of the principal subject and answer in full in the whole of the successive parts, these constituting the essential *materials* of the fugue. This division consists, therefore, of an announcement of the subject-matter—a statement, so to speak, of the argument.

II. The exposition is often succeeded by a short *episode*,

constituted by a prolongation of the coda to the answer, (*Cf.* § 2 (2) (*b*)) consisting of continuative and imitative matter with ordinarily one or more (for the purpose of securing individuality and relief, and avoiding monotony) *silent* parts, and clearing the ground, so to speak, for what is termed

III. *The counter exposition or inversion of the fugue.* This second announcement of the subject-matter, and in a different form, which constitutes an element in most extended fugues (although frequently presented for purposes of abbreviation and variety, either with curtailment or in *stretto* form), consists, as its name indicates, of an *inversion* of the *original exposition*—a re-statement under another aspect of the main argument —the response being now regarded as the subject by exchanging parts with, and being correspondingly answered, by this.

IV. The inversion of the fugue is commonly followed by *another imitative episode* sometimes in the form of *sequence*, and preparing the presentation of the subject in a new key.

V. After the varied exhibition of the subject and answer in a more or less extended collection of keys interspersed with passages of imitative and continuative episodical treatment, and frequently effectively terminating with a suggestive dominant close in the key of the tonic with altered mode, the entry (after an entire rest of all the parts) is effected of the *stretto* or *compression* of the fugue.

VI. The stretto either immediately succeeds or is followed by and culminates upon the *pedal point*, after which is sometimes appended the confirmatory and more or less extended (*subdominant*) *plagal* or *church cadence.* (Art. 315 II.)

§ 4. General Rules.

(1.) By reason of the easily induced monotony characteristic of the fugue form (*Cf.* (4), (6)), it is a main principle, in fugal construction, to labour hard for the attainment of a healthy variety in treatment. As a general rule, repetition should never be effected of a passage without modification of either contour or tonality. Inversion (by which is meant contrary movement) affords a valuable resource for obtaining variety.

(2.) To ensure distinctness and individuality of parts, and unity and variety of general effect, re-entries of the subject are effectively preceded by a rest (Art. 359), often by a perfect cadence terminating a modulation (*Cf.* (3)), and a rest, generally, should never be followed unmeaningly and without distinct purpose, but

always by an imitative passage or other working of the subject. Presentations of the complete subject are, to secure the individualisation of this, commonly followed after a short interval by a silence in the part in which it occurs.

(3.) As in contrapuntal writing, generally, a minimum employment should be effected of the perfect cadence, this form being reserved for the close of *principal* periods preceding fresh modulation.

(4.) The final exhibition of the subject, which should receive, as far as possible, an impartial display in *each* of the parts, should take place in an *extreme* part.

(5.) The interest should heighten with the progress of the fugue, culminating towards its close, for which should be reserved the closest and most intricate elaboration and the most vigorous strettos.

The student should analyse in detail, and bar by bar, the masterly, often sublime, examples of fugue afforded in the imitative works of Handel and J. S. Bach, a characteristic variety of the fugue form, and one much practised by the latter master, being that known as the fugue with a chorale. (*Cf.* Art. 470.) *

CHAPTER XXXVII.

THE SONATA AND OTHER FORMS.

§ 1. Classification, &c.

472. THE modern sonata is an instrumental composition comprised of a number of (commonly three or four) distinct movements in usually different, though related

* The analysis here strongly recommended, and which is essential to a thorough grounding in musical composition, should be effected by the patient and painstaking *reconstruction in manuscript* of each several piece, no bar or even *note* receiving insertion in any case until its pertinence and relation to the contextual whole, of which it forms a part, shall have been duly, precisely, and exhaustively ascertained. The several *imitational devices* of *inversion*, *reversion*, &c., however applied, and to what proportions of either a primary or a secondary theme or phrase should not be missed, nor their varied ramifications and development incompletely and inadequately traced out. (See Appendix, *Specimens of Analysis*.)

keys, and suitably contrasted in character and constitution, the first and the last movements being, moreover, in one same (the principal) key (*Cf.* Arts. 317, 352 I.), with sometimes, in the last (in the case of the *minor* sonata), a change of mode from minor to major (*Cf.* Art. 315 II., 355 II.).

The sonata is named after its principal key, which is that also affording unity to the entire work (Art. 317, 352 I.). The number of constituent movements in different specimens, ancient and modern—although the order of composition may be said to consist *essentially* or *integrally* of *three* appropriately succeeded and contrasted, viz., the *allegro*, the *slow*, and the *quick* movements—varies from one to six, duplication being effected in the more comprehensive varieties of either the slow or the playful movement. The extension of the sonata constituting the *symphony*, and never comprising less than *three*, commonly includes *four* distinct movements.

The term sonata (It. *sonare*, to sound, or possibly *sonetto*, a sonnet), apparently originally applied to musical composition early in the seventeenth century, seems to have been used in the first instance to include concerted *vocal* music. Subsequently the designation was extended to denote instrumental (concerted string, &c.) compositions of one or more movements for either church or chamber use. The primitive sonatas bore a certain resemblance to the more elementary and preparatory contemporaneous *sets of pieces*, *Suites de Pièces* (*Cf.* § 4), but presented also marked and characteristic points of difference from these, for whereas the latter (1) comprised almost exclusively specimens in a single key of the dance tunes of the period, or of the same form (as relegated entirely to *musical* purposes) somewhat *extended*, the former were constituted of movements progressively, and on the whole, characterised by a greater *development* and rhythmical freedom, and, like the modern form, written in *different* (though *related*), and with an initial and final *principal* key.

Since the epoch of Haydn and Mozart, at least *one* movement in a symphony or a sonata has been treated as pre-eminently a movement of continuity or thematic development, and as a model generally for instrumental composition as exemplified in the sonatas, symphonies, concertos, overtures, and string and other chamber music of the great masters (*Cf.* Art. 454). The form

of movement in question—commonly regarded by musicians as of the highest importance and value—is known distinctively from (*a*) its ordinary position in the sonata, (*b*) its (of this) distinguishing character, as either a *First Movement* or the *Sonata Form*.

Haydn was the first of the great composers to recognise and develop the powers and resources of the sonata form, which, however, were immeasurably extended by Mozart and Beethoven. Episodical development and aesthetic unity constitute characteristics of this latter master. So far as symmetry, regularity, and this combined with beauty of form are concerned, the productions of this class of Haydn and Mozart seem to be scarcely susceptible of improvement.

473. The term *concerto* is used to denote the extended application of the sonata form comprised in an instrumental composition of ordinarily—as a consequence of the omission of the *scherzo*—three distinct movements, and for one or more solo instruments with full or other orchestral accompaniment by way of judicious subordination, responsive alternation, and contrast, the plan being suitably modified so as to exhibit alike the resources and special capacities of these, and the skill of the performer.

Other noticeable points of distinction between the concerto and the symphony, in addition to the omission of the scherzo, consist in—

(1) Either (*a*) the omission of the formal, extraneous *introduction*, or (*b*) its replacement by, before the regular treatment of these, a preludial exposition or "giving out" of both the main subjects in the principal key of the piece.

(2) The interpolation near the end of either the initial or the concluding movement of an *improvised*, or else of a *written*, cadenza for the principal instrument.

(3) The relatively *limited* development of the subject-matter.

474. A sonata for three, four, or more *solo* instruments (one to a part), these being either stringed, wind, or these combined, or in conjunction with the pianoforte, is termed a *trio*, *quartet*, *quintet*, *sextet*, *septet*, *octet*, &c.

A sonata for full orchestra—a form of composition, serving, as the most elevated of instrumental, pure, *absolute*, or *abstract* music, to tax to the utmost the highest powers of the composer, and the manifold resources of the musical art, and constituting the most exalted order of musical construction—is known as a *symphony*.

Considering the vast variety of rich, powerful, and delicious effects capable of evolution from a judicious combination of wind with stringed instruments, it is to be deplored that such an application of the sonata form has not received, to a very much greater extent, the attention of musicians than has hitherto been the case.

As dependent for its effect upon the aid of neither verbal language, dramatic action, nor any other extraneous accessory, the symphony must be regarded as the highest pinnacle of musical development, the highest culmination hitherto reached by the art. In the symphony the sonata form is extended and developed, and assumes proportions and a breadth and massiveness of outline in accordance with the gigantic powers and comprehensive resources of the full orchestra.

§ 2. Materials (Movements) of the Sonata.

475. The four constituent movements (Art. 455) found in a sonata or symphony are respectively—I. The *Allegro;* II. The *Slow Movement* or *Andante* (*Adagio, Largo,* &c.); III. The *Minuet* or *Trio,* for which is now commonly substituted the *Scherzo;* IV. The *Finale* (*Allegro* or *Presto*).

Most compositions cast in the sonata form comprise four essentially distinct movements (*Cf.* Art. 472).

I. The *Allegro,* to which is sometimes prefixed (commonly in the symphony) a generally—as not essential to the design—extraneous *Introduction* (ordinarily, in a relatively slow time, of a massive, dignified, often suggestive and preludial, character, and with an absence of regular form), constitutes the movement upon which the composer concentrates his greatest strength, his learning, skill, and profundity of thought. It is almost invariably written in the form of a first movement, and forms a distinctive test of the musical *scholarship* of the author (*Cf.* Art. 472).

II. The *Slow Movement*, as distinctively the *quiet* movement of the sonata, is *contrasted* with the allegro (*a*) in its *tempo* and length, being normally of more limited extent than this, (*b*) in its exhibition through the medium of more continuous and regular melodies of passion or sentiment rather than of musical erudition, and (*c*) in its generally reposeful and pathetic character. It is thus more *homophonic* and *songphrased* than the allegro. The slow movement of a sonata should be written in some nearly related (to the principal) key. In *major* specimens it is often found in the key of the *subdominant*, in *minor* in that of the relative *major*.

III. The *Scherzo*—sometimes entirely absent, and occasionally found as the *second* movement—stands out in its light, animated, and playful character in strong relief to the passion and deep feeling of the slow movement. The key of the *Minuet* or the *Scherzo* should be such as suitably to connect the second with the fourth movement.

IV. The *Finale* occasionally, and not *undesirably*, forms a recapitulation in treatment of the allegro (but less learned and laboured), so as not unduly to tax the, at this stage, considerably exercised perception of the hearer.

§ 3. The First Movement.

1. General Conduct.

A first movement consists of three main and separable *divisions*—

I. The first being pre-eminently one of *statement* or original *presentation* of the subject-matter (and hence, normally for greater impressiveness, *repeated* in performance);

II. The second one of *treatment* or *working* of such subject-matter; and

III. The third and last one of *recapitulation* or *final statement* of the first, with commonly such appended modification (*Coda*) as is necessary to effect a satisfactory and final close.

I. Consistently with their respective general characters, the "First *Part*" (comprising the first *division*), whose termination, commonly denoted by a first double bar, is at once determinable from the modulation and the complete exhibition of the subjects—

(*a*) presents such subjects simply, clearly, and in full, and with an absence (save subordinately and digressively) of working or development;

(*b*) its several constituent phrases without curtailment;

(*c*) is restricted (save transiently and digressively) to the two principal keys of the tonic and the dominant.

II. On the other hand, the "Second *Part*" (comprising the second and third *divisions*, and sometimes termed "*Free Fantasia*") is, in its first division, entirely opposed in general character and constitution to the first, as, while avoiding prolixity,

(*a*) presenting its subjects and phrases with every attainable modification, interruption, curtailment, and variety of treatment;

(*b*) employing a busy though judicious and not inordinate variety *of* (often including extraneous) modulation, the keys of the first part (especially at the outset, the *principal* key) being avoided, and a general change of *mode* effected;

(*c*) contrasting the *aspect*, *attitude*, or *setting* of all repeated matter, *loud* passages in the *first* being antithetically responded to by *soft* in the *second* part, *major* by *minor* (or intimately related) keys, a *fundamental position* or a *simply* accompanied subject phrase by one in *inverted* position or more *elaborately* set;

(*d*) effecting as highly wrought an elaboration as suggested by the scholarship and power of the composer (*Cf.* § 2 I.), by means, *e.g.*, of unexpected combinations of portions of the subject-matter of the first part, and

(*e*) involving, as determined by the nature of this, either contrapuntal (imitative, sequential, canonic, fugal) or other ornamental working (by variation or otherwise) of either the whole or (often previously presented as insignificant) fragments of the several subjects. If admitted into the *Free Fantasia*, constituting the second division at all, new matter, and not growing out of the original subjects, is treated as episodical and subordinate.

III. (*a*) In the third or recapitulatory division of the sonata (this being the second division of the second part), a virtual repetition is effected of the first part, with frequently, in modern specimens, the addition of other interesting features in the shape (*e.g.*) of a more varied accompaniment.

(*b*) The coda or tailpiece not unfrequently terminating this portion of the work, often effectively forms a more or less extended or summarised *resumption* or *re-echoing* of suitable reminiscences of the preceding subject-matter worked imitatively and in stretto (*Cf.* Chap. xxxvi., § 2, 6.)

2. Detailed Analysis.

The following constitutes a general detailed analysis of a modern first movement in either mode :—

(1.) The First Part.

MAJOR.	MINOR.
(a.) The Tonic or First Subject in the principal key, and consisting of a greater or less number of distinct, well-marked, separable, and more or less melodic members or ideas, in general keeping with each other, and occupying such proportion of the composition as is requisite, adequately and effectually, to establish the tonality of this.	**(a.) Idem.**
(b.) Passages. Short passages—either imitative subject-workings or extraneous—leading to the key of the dominant, and by terminating (commonly in a half-close) upon the dominant of this, allowing opportunity for momentary repose and the due assessment of	**(b.) Idem.** but effecting a modulation into the *relative major*, and by terminating in a half-close upon the dominant of this, allowing opportunity for momentary repose, and the due assessment of
(c.) The Dominant or Second Subject in the key of the dominant, or occasionally, if more suitable, some other key, which, although perfectly distinct and well-individualised, should be (1) in general keeping, (2) of similar extent and constitution, and (3) desirably, either in whole or in part, combinable with the first.	**(c.) The Second Subject** in the key of (commonly) the relative major, occasionally the dominant minor, or even some other appropriate key, in which case suitable modification of the course of the modulation is necessary.
(d.) Passages. Imitative or free *dominant* passages leading to a full close in this key.	**(d.) Passages.** Imitative or free *relative* passages leading to a close in this key.

(2.) The Second Part.

(a.) The Development. The first division of the second part is entirely constituted of an exhaustive working of the tonic and dominant subjects as explained in (§ 3, 1, II.), ending in the key of the original dominant, and leading back, often by means of a pedal upon this, to the original tonic key in which is presented	**(a.) Idem.**
(b.) The Recapitulation, or second division of this part of the movement whose principal tonal modifications of Part I. consist in the alterations—these being often literal *transpositions*, or more or less exact *imitations*, of the accessory passages following the primary exhibition of the first and second subjects in the "First Part" into keys occupying similar relations with the original tonic to those borne by the first set of keys to the original dominant—necessary to effect the consecutive exhibition of *both* the principal subjects in the *tonic* key which is virtually retained throughout, and also when this occurs in the subsequent and terminating	**(b.) Idem.** with presentation of the second subject when suitable, and to secure brilliancy of effect in the tonic *major*.
(c.) Coda.	**(c.) Idem.**

With regard to the foregoing analysis, it should be observed that, as a consequence of the extension and development by which movements are now characterised, and resulting mainly from the introduction of additional accessory passages, and their conversion into real episodes, sonatas often embrace more than two principal subjects. In such cases, however, the same general principles and structural plan are adopted and retained.

An analogy has been traced between the sonata and the fugue forms. Both are movements characterised by a development of principal subjects relieved by subordinate episodical treatment. The nature of the analogy will be more apparent from the following scheme :—

ANALOGICAL SCHEME.

Fig. 189.

FUGUE FORM.		SONATA FORM.	
1	Exposition.	1	Presentation of Subjects.
2	Counter Exposition and Stretto with Modulation and Episodes (= Development.)	2	Development.
3	Repetition (frequent) of Subject (with Coda).	3	Recapitulation (with Coda).

The foregoing analogy is of use as exhibiting the rational and well-considered character of these several forms as based upon the fundamental and universal principles previously enunciated, a fact more fully realisable in proportion as the analogy is extended to detail.

As in the fugue, so in the sonata form, care should be taken to secure the uninterrupted flow substituted herein for the clearly-defined separation of its several constituents characteristic of the rondo form, and whose absence is accounted a cardinal fault in the construction of a first movement. (*Cf.* § 5.)

A main feature conducing to the avoidance of this undesirable *break*, consists in the exclusion of defined *closes* (*Cf.* Chap. xxxvi. § 4, 3), except in the places previously specified (*Cf.* § 3, 2) ; and

it should be noted that even these, as found upon the dominant of either the original or its dominant key, are suggestive and continuative as opposed to conclusive and final in character.

§ 4. The Air or Song-Form. (*Cf.* Art. 458.)

The chief distinctive feature of the mainly homophonic (*Cf.* Art. 168) and episodical song-form is to be found in its constitution of a *single principal subject*, to which the rest of the piece, though to a greater or less extent complementary, is, nevertheless, in treatment and character subordinate.

The subject may consist of either a single complete period or of a more or less extended *succession* of periods, these often running in couples (*Cf.* Art. 454, IV.), as respectively *antecedent* and *consequent* (Art. 461), or being otherwise, either in whole or in part, responsive, symmetrically balanced and mutually related. Moreover, one or more *intermediate* or *secondary* subjects or *episodes* (*Cf.* Art. 454, III.) may be introduced, (1) responsively or complementarily, or (2) in the form of *Trios* (*Cf.* § 7), and involving, in the latter case, corresponding (*da capo*) repetitions of the first or principal subject.

It should be borne in mind that the relation or connection between *homophonic* strains (*unity* being obtained mainly as the result of *repetition*, *Cf.* Art. 454, II.) partakes more (sometimes exclusively) of the nature of simple *aggregation* than of more or less exact *reproduction* by way of *imitation* characteristic of *polyphonic* construction, effect being sought after rather in the parallelism or the contrast of the *æsthetic* than the *structural* constitution, the melodic *idea* as expressive of some thought or sentiment rather than its *figuration*.

Airs, songs (in one or more parts), dances, marches, and a variety of other instrumental and vocal pieces and movements, receive exhibition in the song form.

The ancient Song form, the precursor of the modern and more elaborate first movement, used in a variety of forms in both vocal and instrumental constructions up to the time of Bach and Handel inclusive, constitutes a noteworthy example of the movement of episode. A large proportion of the *Da Capo* songs of Handel, and of the movements constituting the *Suites de Pièces* of his epoch, together with many specimens of national music, are cast in one variety or another of the form in question.

§ 5. The Rondo Form. (*Cf.* Art. 458.)

The following is the *general* order adopted in the construction of a movement or piece in the extension of the homophonic *song*, known as the *rondo* form, an order, however, subject to considerable modification as to detail in the several varieties practised, as determined by the length and character of the piece or the taste of the composer.

Fig. 190. GENERAL RONDO PLAN. (*Cf.* § 3, 2.)

PART I.	PART II.
(1.) **Principal or Tonic Subject,** beginning and ending in the original or principal key of the piece.	(1.) **Development** of (chiefly) the second subject, involving extraneous modulation, but finally leading (by means often of a half close upon the original dominant) to the
(2.) **Passages,** leading to	(2.) **Principal Subject** in the original key, which is followed by an
(3.) **Secondary or Subordinate Subject or Episode,** which, by modulating into the original key, prepares the way for the entry in this of, without accessories, the	(3.) **Episode** leading to the
(4.) **Principal Subject.**	(4.) **Secondary Subject,**
	(5.) **First Subject** repeated in whole or in part, and initiating the
	(6.) **Final Episode and Coda.**

Whatever the diversification as to the precise order and number of repetitions of the constituent subjects resorted to in the rondo form, the *principle* of construction remaining the same, little difficulty will be found, upon actual examination and by the aid of the foregoing, with regard to their several recognition.

The characteristic *rounding off*, or clear separation, of the main constituent portions of a rondo, as distinguished from the uninterrupted *flow* of a first movement, has been already adverted to.

§ 6. The Slow Movement. (*Cf.* § 2, II.)

Of slow movements of sonatas (1) some are *episodical*, (2) some (when extended) *developed*, (3) some the result of a modification of the developed form, and consisting of a species of compromise between this and the general extended rondo plan exhibited in

§ 5, fig. 190, its main point of difference from this latter being found in the substitution of an *extraneous episode* for the *development* initiating the *second part.* Occasionally the slow movement is found as a theme with variations.

§ 7. The Minuet and Trio.

The *minuet*, an antique dance movement of moderate and rather slow tempo, consists ordinarily of two parts of greater or less extent, and admitting in the second of these of some little development. The *trio*, similarly constituted, but in good specimens well contrasted with the minuet, forms, as indicated by its former designation, *second* minuet, and as a result of succession in performance, by the *repeated* minuet, an alternative episode in the entire movement.

Each successive portion of both the minuet and the trio, with the exception of the last percussion of the former, receives a repetition in performance.

Although formerly apparently assigned for purposes of relief to three individual instruments, as distinguished from the *ensemble* of the minuet, the form now gives its name to the episode in *any da capo* instrumental piece, whatever the nature of the instrument employed, or the number of the performers. Such compositions, moreover, may contain more than a single trio. The trio should be written in a key simply related to that of the minuet. When more than one trio is employed, these should be in different keys. The minuet and trio are cast in either the song or the rondo form. When constituting a separate composition, and unconnected with other movements, this order of movement admits of a more extended development.

§ 8. The Scherzo. (*Cf.* § 2, III.)

The scherzo, inaugurated by Beethoven as a substitute for the older minuet, although of altered character, is of similar, but often more continuous and less formal, construction therewith. It is faster than the minuet, and written in any (commonly in either some form of triple or in $\frac{2}{4}$) time.

The scherzo has been occasionally constructed by the later composers as a first movement, with, however, a less elaborate development than the allegro. It is then termed an intermezzo.

§ 9. The Theme with Variations.

The theme with variations is sometimes comprised as one of the movements in a sonata. The distinction, however, cannot be here too strongly drawn between the artistic, musician-like, and *finished* specimens of this form of movement, found in the writings of the great composers, and the ill-constructed, ephemeral, often inconsequent and undeveloped productions, extensively fabricated by minor writers of the present day, and consisting mainly (and the same remark applies to other popular instrumental forms, such as the so-called fantasia) of strings of arpeggio interspersed with scales and other passages. (*Cf.* Part III. Int. Sec. I., V.)

When properly treated, by the presentation of the subject under a judicious selection of (suitably with its character) varied aspects, the theme with variations constitutes one of the most satisfactory and artistic of purely musical productions—of music considered for itself alone (*Cf.* Art. 474)—and moreover, one whose importance and value to the composer in the acquirement of the power effectively to handle his musical materials, can hardly be overrated. (*Cf.* Part II., Div. II., Int. Sec. V.; and Art. 351.)

The theme with variations constitutes a variety of the song form, and, whether involving treatment of popular, national and familiar, or of original melodies, is of very considerable antiquity, occurring extensively in the old dance music, and hence forming an integral feature in the instrumental music preceding, and resulting in the modern sonata. (Art. 472 and § 4.)

The form of movement in question, while steering clear of prolixity, should comprise every variety of treatment, whether melodic, harmonic, contrapuntal (including imitative, canonic, and fugal), tonal, or rhythmical, more especially suggested by the nature of the subject and the skill of the composer. Among other devices, variations involve

(*a*) The embellishment of the melody by means of inserted graces and the several varieties of passing and auxiliary notes.

(*b*) Its inclusion within a succession of florid scale passages.

(*c*) Its dispersion (or that of the accompaniment, or of both) into the several forms of arpeggio.

(*d*) Its transposition into a different part, involving effectively its combination with one or more additional themes.

(*e*) Its rhythmical translation into a different species of time or measure.

(*f*) Its employment with a modified rate of movement.

(*g*) Its treatment in whole or in part, either (*a*) by the various devices and the several species of imitation, (*b*) canonically, (*c*) fugually, (*d*) by double counterpoint.

(*h*) Its presentation in distinct musical forms, as, *e.g.*, those of the march, rondo, dance tune, and often and desirably in the last setting (and when this does not consist of a more richly, ornate, and elaborate treatment than the preceding), the fugue.

(*i*) The ground bass.

It is the original theme underlying the whole composition which forms the main connecting thread of unity therein.

§ 10. The Finale. (*Cf.* § 2, IV.)

The finale of a sonata is (1) sometimes a first movement (*Cf.* § 2, IV.); (2) mostly and effectively a rondo ; and (3) occasionally a compromise between the developed and the episodical forms, like that treated of in (§ 6). It is characterised by a busy activity and sometimes humour, and is therefore less studied and of lighter character than the allegro, whose key (with, in minor sonatas, a frequently—as determined mainly by the character of the subject—effective change of *mode*) it assumes. (*Cf.* Art. 472.)

§ 11. The Fantasia and other Forms.

A somewhat irregular form of sonata, and depending less upon considerations of form, is that known as *sonata quasi fantasia.*

The construction of the fantasia, of but exceptional occurrence in the great masters, although frequent elsewhere, is marked by only a *general* and partial obedience to fixed and special conditions of form, the composer being allowed considerable latitude to the exercise and play of his imagination and fancy (always, however, to be controlled by his *intellect*) in its conduct and development. Nevertheless, the elaboration of a good fantasia is neither purposeless nor affected at random. On the contrary, it is subservient in the main to some preconsidered unity of design or plan indispensable to an artistic result (as, *e.g.*, the embodiment of some special thought or phase of feeling, some exceptional mental condition), and it is, moreover, often to a very great extent regulated by the more *precise* and *definite* musical forms.

Of the several other and, more or less, irregular instrumental

forms, not comprised in the foregoing, and for a description of which the student is referred to the Glossary, it may be observed that although not rigidly moulded by the previously enunciated laws of form, still, as a rule, even the *slightest* or the most *irregular* pieces (*vide supra*), are, in their construction, guided by either these or modified kindred plans, the presence of *design* or *plan* being invariably indispensable to the evolution of a work of art. (Art. 352, VI.)

The student is recommended to analyse an extensive collection of compositions in every style, as, *e.g.*, dance-forms, marches, songs, choruses, &c., with a view to the thorough knowledge and mastery of their general mode of construction, as constituting particular applications of the fundamental principles previously laid down. These he should invariably transcribe for himself, bar by bar and note for note, inserting in every instance the several bars and even notes, only when their relative pertinence to the contextual whole shall have been duly, precisely, and exhaustively ascertained. (*Cf.* Chap. xxxvi. § 4 (5).)

APPENDIX.

—o—

I. Graces or Ornaments of Melody.

CERTAIN (ornamental) deviations from the strict succession of notes of which a melody essentially consists, termed *graces* or *grace notes*—and varying in character with the successive periods of musical history—are recognised and employed, for purposes of variety and embellishment, in musical composition.

Of these, the four principal are (1) the *Appoggiatura*, (2) the *Acciaccatura*, (3) the *Turn*, and (4) the *Trill* or *Shake*.

The music for the earlier varieties of keyed instruments of the harpsichord family, as well as that generally of the last (and even the preceding) century, was extensively characterised, especially the vocal, by an *over* embellishment.

(1.) THE APPOGGIATURA.

The *Appoggiatura* or *leaning* note (Ital. *appoggiare*, to lean) consists of (relatively with the principal to which it is prefixed) an accented unessential (passing or auxiliary) note (*Cf.* Art. 309), not unfrequently (as a rule in old music) in small type, placed either before or after, and notationally of the same or next lower durational value with its *principal* note, from which, if undotted, it takes in performance *half*, if dotted, *two-thirds* of its extent. The Appoggiatura, so termed from being, as *accented*, *leant upon* in performance, is generally situated either one degree above or below the principal note. For further explanation as to the value and function of this ornament, see Art. 309.

Fig. 132 (*b*) exhibits the appoggiatura as respectively a simple passing and an auxiliary note, and in its duple and triple, conjunct and disjunct, varieties.

(2.) THE ACCIACCATURA.

The *Acciaccatura* or *crushing* note (Ital. *acciaccare*, to crush), is a small note, distinguished from the appoggiatura (and that even only occasionally in modern music) by a slight dash drawn through

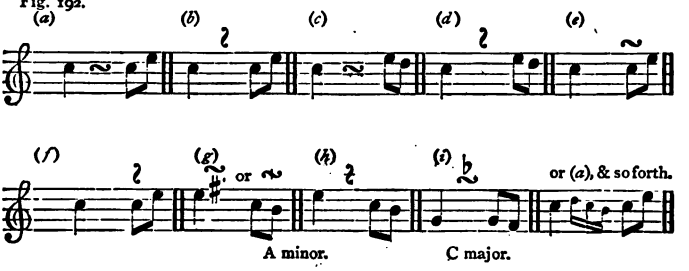
next *below, inverted* or a *back* turn (figs. (*b*), (*d*), (*f*), (*h*)). The turn is indicated, either like the appoggiatura, by *small notes* or by the sign ∾ placed *above, below,* or *after* the principal note, the *inverted* or *back* turn being occasionally (with chiefly *English* writers) denoted by an *inversion* of the sign thus ʔ. Should the sign remain uninverted, the turn may be either direct or otherwise, according to the discretion of the performer.

The turn consists of either three or four notes. If the essential or principal note (*Cf.* Art. 309) be followed by its own *repetition*, only *three* are employed (fig. (*a*), (*b*), (*i*)). Should, however, the principal be succeeded by any *other* note, the turn terminates with a *fourth—i.e.*, with a repetition for the sake of emphasising this, of such *principal* note (figs. (*c*) to (*h*)). In both the above cases the sign is generally placed *after* the principal, where this is relatively an accented, note.

When found upon a relatively unaccented note, the turn, indicated by a position *above* or *below* such note, is commonly initiated by means of either (if direct) its upper or (if inverted) its lower unessential notes—a group of four equal (but indefinitely lasting notes) being thus substituted for the original principal note. (Figs. (*e*), (*f*).)

(1.) AS WRITTEN.

Fig. 192.



(2.) AS PERFORMED.

In all cases the duration of the turn, which, however, can be only *approximately* indicated by musical characters, is borrowed from that of the principal note, its constituent notes, which are of somewhat indefinite value, being ordinarily rendered as slowly as the time of the principal note will permit.

As a rule, the upper and lower notes of the turn are removed from the principal by *different* intervals, an upper semitone requiring a lower tone, and *vice versa*. Exceptions to this occur, however, in the turns respectively upon (1) the minor dominant (fig. (*g*)) and (2) the major supertonic, the former being comprised of two *semi*, the latter of two *whole* tones, as well as in (3) *chromatic* turns, or turns involving sounds of the chromatic scale (fig. (*i*)). Unless otherwise indicated, the constituent notes of a turn, as respectively ♯, ♭, or ♮, follow the signature. (See fig. (*a*) to (*f*.) When a deviation from this order is required, the requisite accidentals are placed, if for the *upper* note of the turn, *above* (fig. (*i*)), if for the *lower*, *below* (fig. (*g*)) the sign.

Elevation may be denoted by a dash drawn *through* the sign. (Figs. (*g*), (*h*).) The indication of the turn in the *extreme* parts of a *chord* is effected by a suitable disposition of the sign, those in intermediate parts being generally, for the sake of clearness, exhibited in *full*.

The turn is very generally found at the close of the grace termed the shake. (*Cf.* (4).)

(4.) THE SHAKE OR TRILL.

The *shake* or *trill* (indicated by the sign *tr.*, the two initial letters of its Italian designation, *trillo*, is formed by the rapid and continuous alternation of a principal, together with ordinarily the unessential note next above. (Fig. (*a*).) Though indefinite as to the number of its constituent alternations, the total duration of the shake should not be less than that of its principal note. (*Cf.* 3).)

Should the shake require modification by (1) a *chromatic inflection* of the unessential note (fig. (*b*)), or (2) the substitution of the unessential next *below* (fig. (*b*)) instead of that above, this is represented as in the figure.

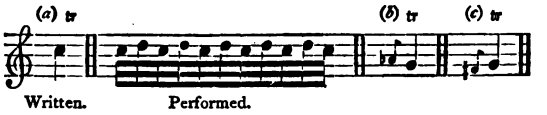


Fig. 193.

A shake is commonly, especially when preceded by an appoggiatura, concluded by means of a turn, the only exception to this rule being presented in

(1.) The succession or *chain* of shakes (*catena di trilli*) upon notes forming a continuous and uninterrupted (conjunct) diatonic or chromatic progression, in which case a single turn after the last shake is sufficient.

(2.) The *passing, close,* or *contracted* shake upon a note of small value.

(3.) The shake followed by notes essentially equivalent to those of a turn.

Should any disjunct interval occur between the notes affected by shakes in (1), the turn must invariably be given.

When *initiated* by means of a turn, the shake is termed *prepared.*

A *short* shake preparatory to a principal note, and consisting of the alternation of this with the note situate a semitone *below,* is termed a *beat;* the *shortest of all* and constituted of the principal note, repeated with intermediate interpolation of the note adjacent, is known as the *mordente,* and denoted either by small notes or the sign (or).

II. Modes of the Scale.

A main characteristic of the music of nations of an imperfect or semi-civilisation, with its necessary limitation to a small cycle of distinct keys, as evidenced in (1) the fragments (so far as the meaning of these have been hitherto ascertained) of the earliest music extant, including the modifications of this constituting a large proportion of *national* music, sacred and secular; (2) the music of but partially civilised, comprehending that of (*a*) barbarous, and (*b*) the Eastern nations of our own time, is to be found in the importance attached to *mode*—the varied disposition of the scale order.

The modern system of keys apparently constitutes a development of the old *Greek,* from which seem to have been selected with certain modifications the *Ecclesiastical Modes.* As to the precise structure of the old *classic* scales, very little, notwithstanding the attention given to the subject, seems to have been clearly ascertained. The *Ecclesiastical* scales or *tones,* however, consisted essentially of characteristically different *modes* of melodic disposition of what is now accepted as the normal scale, and having the effect of prominently enhancing some one or more of its constituent sounds (Chap. iv.) Each tone or mode comprised two principal sounds, the *dominant* and the *final,* the former, although not always, as in modern music, the *fifth* of the scale, being that of most extended and forcible employment—the *predominant* or *ruling* (commonly in the old church chants and melodies the *reciting*) tone—the latter that used as *terminal* in any given mode.

It was a fundamental principle in the construction of the old modes that each should comprise in range the interval of a perfect

fifth (*diapente*), conjoined with, *i.e.*, either preceded or followed by that of a perfect fourth (*diatessaron*), but of these either might precede the other, the complete octave being thus divisible at—turning as it were upon the *pivot* of—either its *final* (i.e., *tonic*) or its *dominant*. Hence arose the classification of scales into the two varieties known respectively as *authentic* and *plagal* (i.e., *collateral* or *athwart*), the former denoting scales extending from *final* to *final* through the *dominant*, the latter, commonly distinguished by the addition to the name of their corresponding principal of the prefix *hypo* (below)—since such scales began in each instance a fourth below the tonic *—from *dominant* to *dominant* through the *tonic*.

A brace or pair of scales, mutually related as authentic and plagal, possessed one and the same final but not the same dominant. In *authentic* scales the dominant was normally the *fifth above the final*, but in *plagal* the *third below* that of the corresponding *authentic*.

Exceptions to this rule, dictated by the ancient aversion to the interval of the *tritone* (*Cf.* Part II. Div. II. Int. Sec., and Art. 398), are found in the substitution in respectively the second authentic and the fourth plagal, for in lieu of the tritonic B, the nearest approximate and *non*-tritonic sound C. (See fig. 194.)

It is necessary, therefore, to the due assessment of the old church modes, and of compositions cast therein, that four points should be kept distinctly in view, viz. :—

1. The *character* of the mode as respectively authentic or plagal.
2. Its tonal range or extent (*i.e.*, compass).
3. Its dominant.
4. Its final.

These several features, as applied to the twelve ecclesiastical modes formerly practised, are clearly exhibited in the following scheme, accepted by probably the greatest existing English authority upon this subject of our time, the Rev. Thomas Helmore. It should be stated, however, that a very considerable diversity of opinion exists as to the correct designation and numbering of the several modes.

It should be remembered that the several pairs of scales of apparently identical structure comprised in the above list were equivalent solely so far as their actual scale order was concerned. As characterised by the possession of differing *dominants* and *finals*, and hence by the emphasis—as a result of frequent and prominent *repetition*—of in each instance *different scale tones*, they were productive of widely diverse and even opposite effects upon the ear.

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* Similarly the principal or authentic scales themselves, as severally situated a fourth *above* their respective plagal, were sometimes distinguished by the prefix *hyper* (above).

THE ECCLESIASTICAL MODES.

Fig. 194.

I. AUTHENTIC.					II. PLAGAL.				
No.	Name.	Tonal Range.	Dom.	Final.	No.	Name.	Tonal Range.	Dom.	Final.
1st	Dorian.	d to d	A	d	2nd	*Hypo*-Dorian.	A to A	F	d
3rd	Phrygian.	e to e	C* for (B)	e	4th	*Hypo*-Phrygian.	B to B	A	e
5th	Lydian	f to f	C	f	6th	*Hypo*-Lydian.	C to C	A	f
7th	Mixo-Lydian.	g to g	D	g	8th	*Hypo*-Mixo-Lydian.	D to D	C* for (B)	g
9th	Æolian.	a to a	E	a	10th	*Hypo*-Æolian.	E to E	C	a
11th	Ionian or Iastian.	c to c	G	c	12th	*Hypo*-Ionian. or Iastian.	G to G	E	c

The student should note the character of the above scheme as constituting (in its selection of collateral or *dominant* (derived) scales, referring as unmistakeably as a restriction to their *melodic* employment *permitted*, to in each instance their respective *principal* scales) the germ or nucleus of the modern system of *keys*.

Traces of the old modal bisection of the 8ve are still discernible in the rules regulating the construction of the answer to the tonal fugue. (*Cf.* Chap. xxxvi. § 2, (2) (*a*).)

With the advance and development of harmony, the several ancient modes, as in varying degrees unsusceptible of fundamental harmonic treatment, gradually gave place, in proportion to their degree of incompatibility with this, to the modern system of keys. (*Cf.* Part II. Div. II. Int. Sec.)

The mode upon the *second* of the modern major scale (the Dorian) seems to have lingered longest, having been worked in by composers down even to Bach and Handel. The mode upon the *fourth* of the scale was seldom utilised, that upon the *seventh* (in both cases by reason of the prominent *tritonic* interval) scarcely at all. Of the several other modes, it will be seen that the modern *major* or normal scale corresponds with the ecclesiastically forbidden *Ionian* or *secular* (*il modo lascivo*); the modern *minor* with the *Æolian* mode. (*Cf.* Chap. iv.)

III. Temperament.

1. Definitions and General Principles.

The difference between a *major* tone (ratio 8 : 9) and a *minor* tone (ratio 9 : 10) is termed a *comma* (ratio 80 : 81).

A *major* tone consists of *nine*, a *minor* of *eight*, and a *mean* tone of eight and a half commas.

The following are deducible from a consideration of respectively p. 23, note, Art. 39, and the foregoing definition.

(1.) The formation from any given scale series as *principal* of an absolutely correct and true scale (one—*i.e.*, possessing intact the mathematical normal scale order) upon its *dominant*, necessitates the replacement (as sound 2 of such new dominant scale) of the sixth of the original scale by one situated *a comma higher*. (*Cf.* fig. 13.) And conversely, since a principal stands in the relation of *subdominant* to its *dominant* scale.

(2.) The formation from any given scale series as *principal* of an absolutely correct and true scale (one—*i.e.*, possessing intact the mathematical normal scale order) upon its *subdominant*, necessitates the replacement (as sound 6 of such new *subdominant* scale) of the second of the original scale by one situated *a comma lower*. (*Cf.* fig. 13.)

(3.) Since *any* may be regarded as a *principal* or *original* scale, it is evident that the *fourth derived* scale, from a given principal—*i.e.*, an auxiliary scale of the *fourth* degree (Arts. 34–36), possesses (provided its derivation involve nothing but absolutely correct ratios) *no sound in common* (*i.e.*, *exactly in unison*) *with the principal* from which it is derived.

When to the above are added the consideration (*a*) that even within the limits of a single scale deviations occur from absolute correctness of ratio, since as previously demonstrated (p. 23, note), the normal scale includes instances of *irregular* or *defective* and *non-typical* ratio, and further, (*b*) that the several *normal* or *typical* ratios of the scale *themselves* are to a marked extent *incommensurable* (*Cf.* p. 422, note)—(1.) The truth of the statement previously advanced (p. 24, note), that "music in perfect tune, as a result of absolutely correct ratios, is in practice impossible of attainment," and hence (2) the necessity of some practical and sufficient art system of compromise, substantially and virtually true, are at once manifest.

The compromise resorted to in the necessary adjustment of the intervals or divisions of the 8ve has received the designation Temperament. By temperament is meant the adjustment or distribution of the imperfection of musical ratios—the *tempering* or abatement of the amount of deviation from one normal scale order—necessitated in part by a restriction, as in the case of instruments with fixed sounds (*e.g.*, *keyed* instruments) to a limited cycle or number of distinct scales or keys.

As a consequence of, and in connection with, the incessant con-

troversy and discussion, to which, in all periods of musical history, the vexed question of temperament has given rise, various methods of adjustment have been from time to time proposed and tried to remove the discrepancies between keys as to the exactness of musical ratio before alluded to, but, all by reason of (*a*) the *theoretical* difficulties concerned, with regard to the precise determination of the scale constitution, (*b*) the practically insurmountable *mechanical* difficulties involved in the necessary invention and elaboration of musical instruments, and (*c*) the incompatibility of the several systems propounded with the musical literature, practice, and development of the modern epoch—without success.

2. CLASSIFICATION, &c.

The whole of the many methods of temperament promulgated or received at different periods of musical history, are referable to the two main classes known respectively as I. The *unequal;* II. The *equal* temperament. Of the former of these, that known variously as the *mesotonic*, mean tone, *old organ*, or distinctively as *the* unequal temperament, is, as formerly most extensively, in fact almost exclusively, adopted in practice, the most important.

I. The *mesotonic* system of temperament, so termed from its being based upon as a substitute for both the *major* (9 commas) and the *minor* (8 commas), what is known as a *mean tone*, and consisting of eight commas and a half (*Cf.* Definition), aims at preserving the purity or perfection of the *major thirds* in a few keys to the corresponding detriment, however, of the *fifths*. It may be used with tolerable (and a certain characteristically mild) effect in nine several scales or keys, and was that of general adoption as *the* unequal temperament until within a century ago. (*Cf.* I. (*a*).)

II. On the other hand, the *hemitonic* or *equal* temperament system distributes the necessary and inevitable imperfection equally over (*i.e.*, *tempers*) *all* the scale intervals. As thus (1) obviating the possibility of exceptional disparities between individual keys; (2) presenting a sufficiently close approximation to absolute accuracy of intervals, and (3) being inseparably and inherently linked with the very *essence* of modern music. and even *suggestive of much of its development*—as in fact, inevitable in the very nature of things—it has received the endorsement of leading musicians in all civilised countries, and is now that of universal adoption. (*Cf.* II. (*a*).)

I. (*a*) Since four successive perfect fifths tuned accurately in an ascending order (as, *e.g.*, C to G, G to d, d to a, a to e) produce in the second 8ve above that of the original sound a note e (with ratio 81 : 16), approximating in pitch to a true major third, e (with ratio 80 : 16), from the repetition (*e.g.*, c) of such original sound in the *same* 8*ve*, but *a comma* (80 : 81) *too sharp*, the unequal temperament is practically obtained by tuning (essentially) such note accurately as a major third, but with corresponding flattening or reduction in pitch of the intermediate fifths. And this process is

repeated with eight distinct notes. Hence the main characteristics of the temperament in question are

(1) Accurate major thirds in a few keys;
(2) Flat perfect fifths;
(3) A restriction to a very limited cycle of keys.

II. (*a*) Since twelve successive perfect fifths tuned accurately in an ascending order (as, *e.g.*, C to G, G to d, d to a, a to e, e to b, b to f♯, f♯ to c♯, c♯ to g♯, g♯ to d♯, d♯ to a♯, a♯ to e♯, e♯ to b♯ = c), or

which is virtually the same thing, six major tones (as, *e.g.*, C to B♯) produce a note approximating in pitch to a true 8ve* of the original sound, but *a comma too sharp*, the *equal* temperament is practically obtained by (essentially) tuning such note accurately as a true 8ve, but with corresponding and *uniform* flattening or reduction in pitch of the intermediate fifths. And the flattening of the fifths necessarily results in the requisite sharpening of the major thirds. (*Cf.* I. (*a*).)

Hence a main characteristic of this temperament (see. II.) consists (1) in its yielding approximately (and virtually) accurate intervals of every description in all keys. (2) In its deviations from absolute mathematical accuracy being essentially and upon the whole proportioned to the degree of simplicity of, in each instance, the musical ratio represented, and thus to the capacity of the ear to discriminate the same (*Cf.* Arts. 17, 18), since

1. *The perfect consonances* progressively (*Cf.* Table, p. 18) present least absolute flaw, (*a*) the 8ve being invariably true, (*b*) the perfect *fifth* only the twelfth part of a comma *flat*, and (*c*) the perfect *fourth* by the same interval sharp.

2. *The imperfect consonances*, since distinctively characterised by the nearer approach to dissonance constituted in a more diversified ratio, progressively (*Cf.* Table, p. 18) deviate somewhat more decidedly from absolute exactness, (*a*) the major third being two-thirds of a comma sharp, (*b*) the major sixth eight-elevenths of a comma sharp, and (*c*) the minor third three-fourths of a comma flat, &c.

3. *The dissonances*, since of most complex structure, and hence not easily permitting of the more delicate discrimination possible in the case of *consonant* conjunctions, and, indeed, asserting their characteristic disruptive effect as a consequence of this, are characterised upon the whole, and congenially with their relatively elaborate constitution, by the widest departures from rigid mathematical accuracy and precision attained.

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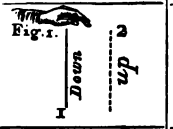
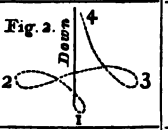
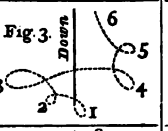
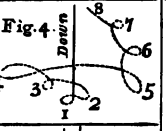
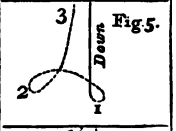
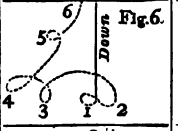
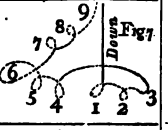
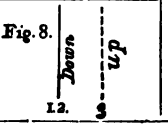
* The incompatibility of the concurrent existence of (with a common pitch) two or more conjoined series of differing intervals exactly in tune, as a consequence of the incommensurability of their several producing ratios, and demonstrated in I. (*a*), receives further illustration from the fact that a succession of three *major* thirds (as, *e.g.*, C to E, E to G♯, G♯ to C) *falls short of*, while that of four *minor* thirds *exceeds*, an octave; the former by the interval of the *enharmonic diesis* (125 : 128), the latter by that of three commas.

IV. Beating Time.

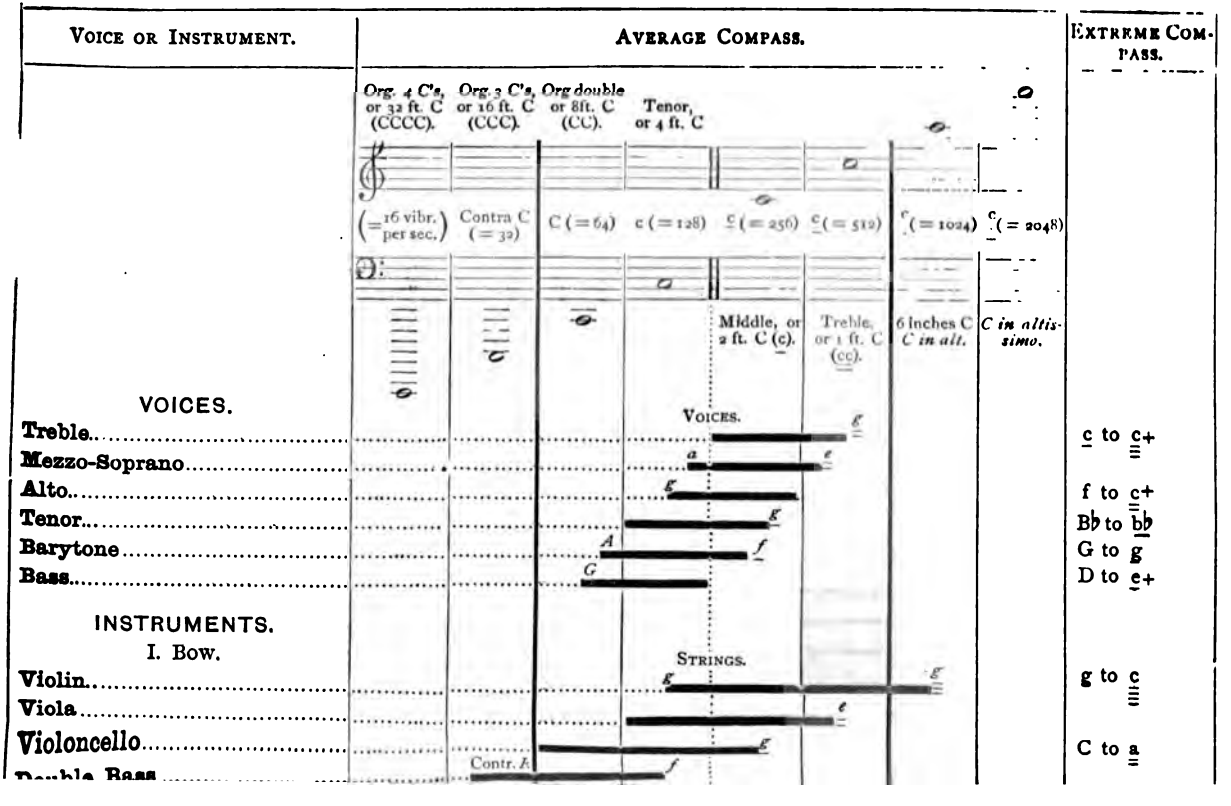
	No. of Beats.	Species of Time.	Rate of Movement.
	2	Simp. Dup. Comp. Dup.	Medium. Very quick.
	4	Simp. Dup. Comp. Dup.*	Slow. Medium.
	6	Comp. Dup.†	Medium.
	Sometimes 8	Comp. Dup.*	Very slow, with much subdivision of bars.
	3	Simp. Trip. Comp. Trip.	Medium. Quick.
	Sometimes 6	Simp. Trip.	Very slow.
	Sometimes 9	Comp. Trip.	Very slow, with much variety in bars.
	2	Simp. Trip.	Very quick.

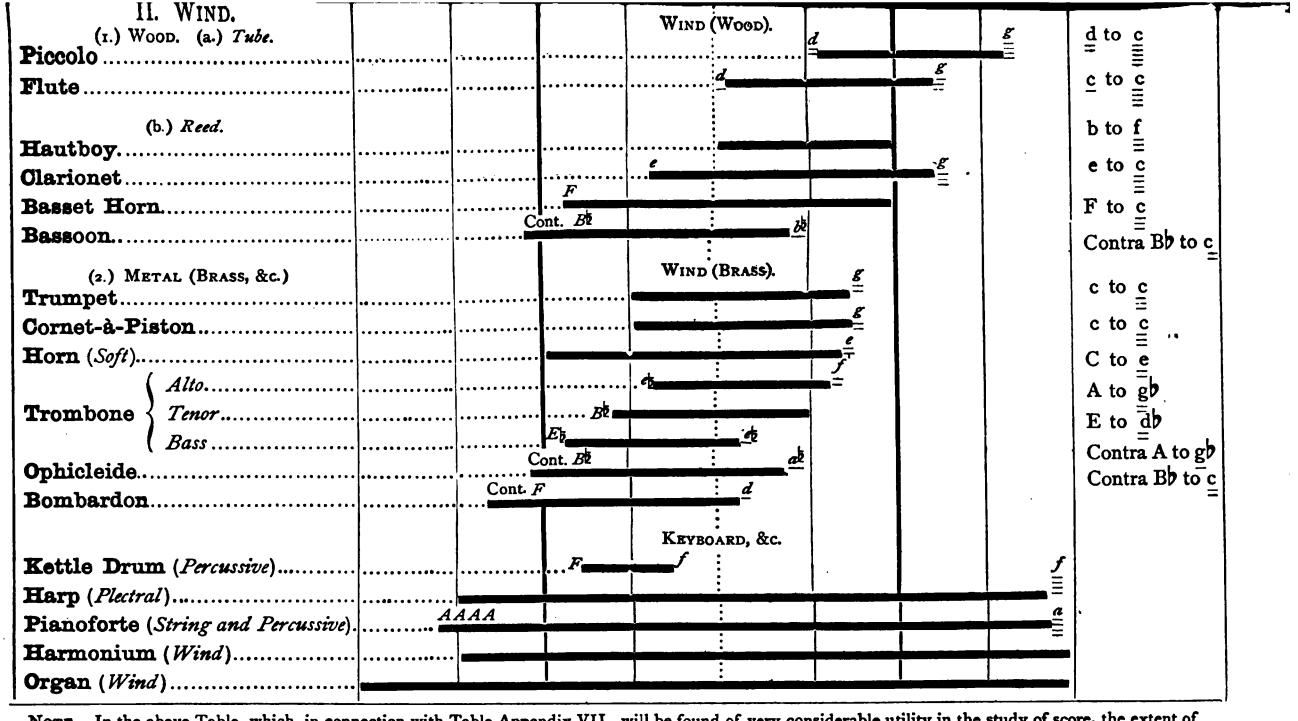
NOTE.—The first, which is the most important beat in a bar, is always a *down* beat.

* When each measure is made up of 2 of Simple Duple.

† When each measure = 2 of Simple Triple.

V.—TABLE OF THE COMPARATIVE COMPASS OF VOICES AND INSTRUMENTS.





NOTE.—In the above Table, which, in connection with Table Appendix VII., will be found of very considerable utility in the study of score, the extent of the correspondence between the medium vocal range, and that of the bulk of the principal instruments, is rendered clear by means of the thick *vertical* lines. As practically of most use, the average compass is that generally given. (*Cf.* p. 6 and Art. 126.)

VI. Figured Bass.

The practice of figuring the bass part of a composition of universal employment until within the last half century, for the purpose of indicating the (chiefly keyed) instrumental part in a score, although, as wanting in adequacy, comprehensiveness, and preciseness of expression, superseded by the modern plan of clearly exhibiting such instrumental part *in full*, is still retained by musicians as a useful *short-hand* (*Cf.* Art. 169) and—since indispensable in the analysis of *old* scores—essential appliance in the study of harmony.

The primary application of the terms *thorough* (*i.e.*, *through* or *throughout*) *general*, or *continued* bass (*basso continuo*), by which the numerical nomenclature under consideration has been variously known, was to denote the fundamental and supporting part commonly sustained or *continued*, by an instrument *throughout* the course of *vocal* compositions, the designations being further extended upon the subsequent introduction of the accompanying figuring to include this latter, and thus even the science of harmony (sound combination) itself (Art. 169).

A bass appropriately figured is technically known as a thorough bass *signature*.

The following, which should be studied in connection with the various portions of the text indicated, and which receive illustration in the several figures of chaps. xx.–xxiv. inclusive, are the general rules for correctly figuring a given bass. (*Cf.* p. 139 note, and Arts. 169, 219, 232, and 234.)

I. General Rules.

(1.) A chord may be represented by any appropriate selection of the numerals denoting its constituent intervals with the bass necessitated for purposes of either correction of a previous figuring, or of elimination demanded by the context.

The 8ve (which is always to be rendered *perfect*) is, unless for contextual reasons, seldom expressed.

Any chord indicated by a bass figuring need not necessarily be limited to a single percussion or mode of harmonic constitution or distribution. Provided the duration of the bass note be not exceeded, and the essential character of the combination (as respectively fundamental or inverted, consonant or dissonant, diatonic or chromatic), &c., retained, the number of actual repetitions or variations of the superposed chord is limited only by the exigencies of progression or of compass, as suitably regulated by the taste of the performer. Thus a chord may be repeated either in whole

or in part in the 8ve, or open and close harmonic positions of either the whole or a portion of its constituent intervals be interchanged.

(2.) The order of superposition of the numerals constituting a figured bass is commonly prescribed by that of their *magnitude*, and irrespective of that of either the actual superposition or progression in performance of the indicated sounds, the largest number being placed highest. Deviations from this, resorted to sometimes in the case of complicated successions, are commonly effected in order to denote, at least approximately, the *contextual sequence* of the intervals thus irregularly indicated.

(3.) Modification of any sound of a chord receives indication by means of the figure denoting such sound, (*a*) prefixed by the appropriate accidentals, or (*b*) for semitonic elevation, by whatever accidental effected, crossed obliquely or horizontally. For the sake of clearness, and to remove ambiguity, an extreme, extraneous, or other interval or combination is often indicated by a redundancy of notation (*Cf.* (7), and Art. 166.)

2. THE THIRD.

(4.) The third in a chord is not, as a rule, indicated by a numeral, the use of the numeral, in this case, being chiefly for contextual reasons, and for separation from either a previous or a succeeding chord. When modified, it is ordinarily represented by its corresponding accidental alone.

It should generally be supplied in performance when the figuring embraces neither a 2 nor a 4, a notable exception being found, however, in the suspension $\frac{6}{5}$ $\frac{}{4}$.

3. THE TRIAD.

(5.) The accompaniment of a given bass note by a common chord (chap. xx. § 1) is indicated in general by an absence of figuring except

(*a*) When two or more *different* chords are found upon a single bass note, in which case the whole of the chords are figured, the triad receiving denotation by means of an appropriate selection of the numerals $\frac{8}{5}$ as determined by the context (*Cf.* 1).

(*b*) When modification is effected of either of its constituent sounds, the modification in question being indicated by the figure representing such sound with the appropriate prefatory accidental. (*Cf.* (3) (4).)

(6) It follows from (1) and (4) that the first inversion of the triad (expressible by any selection of the numerals $\frac{8}{5}$ appropriate to the

context) ordinarily receives indication by the numeral 6. (Art. 219.)

(7.) (*a*) The imperfect (tritonic) fifth, and (*b*) the dissonant triad, are often indicated by means of either this with a prefixed ♭ (when even a ♮ would be more correct), or an oblique crossing of its designating numeral, but in an opposite direction to that specified in (3), viz., from *right* to *left*.

NOTE.—Illustrations of the rules comprised in (5), (6), and (7), are afforded from fig. 92 (*a*) onwards.

4. THE DOMINANT SEVENTH, NINTH, &c.

(8.) For the numerical denotation of severally the triad second inversion, the dominant seventh and the dominant ninth, see respectively Arts. 219, 232, 234, and the corresponding figures. (Figs. 93–100; 104–108, &c. See also Table, fig. 195.)

(9.) The first inversion of the dominant seventh—the $\frac{6}{5}$—is often expressed by the numeral 5, or the same crossed, as indicated in (7) (*b*); the third inversion—the $\frac{6}{4}_{2}$—by the numeral 4. (*Cf.* Art. 232.)

5. PROLONGATION, SUSPENSIONS, PASSING-NOTES, &c.

(10.) The *prolongation* of one or more sounds of a chord into a following combination is expressed by a corresponding number of horizontal *lines of continuation* (useful in *arpeggios*, *suspensions*, and *passing* discords) placed after the appropriate figures. It follows from this that a line of continuation (1) preceded by a single figure, or (2) unpreceded by figuring at all, severally prescribes the prolongation of, (1) often a *complete* chord, as, *e.g.*, the ♭5 or the 4 (*Cf.* (9)), (2) a triad or *common* chord. (*Cf.* (5), and fig. 92 (*a*) onwards, notably fig. 126.)

(11.) An oblique stroke, thus (/) useful in *bass suspensions and passing-notes*, prescribes the accompaniment of the note over which it is placed by the harmony of the next (*i.e.*, *succeeding*) chord. (*Cf.* fig. 107 (*b*), 117 (*b*), 118 (*b*), &c.)

(12.) *Suspensions* imply in their figuring the inclusion of such of the notes of the combination within which the suspension is embraced, as are suitable to the context. Thus 4 · 3 may mean $\frac{8}{4}\frac{-}{3}$, $\frac{5}{4}\frac{-}{3}$, $\frac{8}{4}\frac{-}{3}$, &c. (*Cf.* (1), and p. 244.)

(13.) By reason of the complications that would commonly result from the practice, *passing* notes, unless in slow time, are rarely figured.

EXAMPLES OF SIMILAR AND AMBIGUOUS FIGURING.

Fig. 195.

7	7* 8 5 5 3 3	7 . 6 or 7 6 3 –	7 6 4 –	7 – 4 – 2 –	
	Dom. leading and Dim. 7ths.	Susp. 9 (1st inv.) without root.	Susp. 4 (2d inv.)	Susp. 9 (last inv.) root *above*.	
6 5	6* 5 5 3	6* 6 5	6 – 5 4		
	Dom. 7 (1st inv.)	Lead. and Dim. 7 (1st. inv.)	Susp. 9 (2d inv.) with acc. 6.		
6 4 3	6* 8 4 5 3 3	6* 6 4 3	4 – 3 3	4 . 3	
	Dom. 7 (2d inv.)	Lead and Dim. 7 (2d inv.)	Susp. $\frac{9}{4}$ (last inv.) with 9 in bass.	Susp. 4 with acc. 5.	
6 4 2	6* 6 4 2	6* 7 or 6 4 4 2	4 .. 2 –	6 6 2 –	5 – 2 –
	Dom. 7 (3d inv.)	Lead and Dim. 7 (3d inv.)	Susp. 9 (last inv.) without root.	Susp. $\frac{9}{4}$ (1st inv.) with 4 in bass.	Susp. 4. (3d inv.)
9	9 or $\frac{9}{7}$ or 7&c. $\frac{9}{5}$	9 8	9 8 6 –		
	Dom. 9th.	Susp. 9 to root (with acc. 3 and 5.)	Susp. 4 (1st inv.) with acc. 6 and 3.		

* The *dominant* and the *derivative* (known respectively as the *leading* and the *diminished*) sevenths, with their respective several inversions, are identically figured.

6. Similar and Ambiguous Figuring.

(14.) It is indispensable, from the nature of the case, that the system of figured bass should present instances—only, by reason of their multiplicity, to be readily discriminated as the result of practice and observation—of (*a*) *similar* or (*b*) even *ambiguous* nomenclature of musical combinations and successions, the latter being determinable, in any given instance, alone from a consideration of their *context*.

The table (fig. 195), receiving illustration in the several figs. of chaps. xx.–xxiv., will be found very serviceable as an aid towards the ready decyphering, and hence performance, of a given thorough bass signature. The student should trace out other analogies from the examples comprised in the several figures in question, and also (as the result of steady, careful practice) from a large collection of the thorough bass signatures found in old scores. (*Cf.* p. 426.)

NOTE.—As before stated, instances of similar and ambiguous figuring, such as the above, are discriminable, in any case, upon inspection of the contextual resolution.

Moreover, any suitable selection of the appropriate numerals may be employed, *compound* intervals being, in a thorough bass signature, commonly regarded as *simple*.

VII. Score.

In order readily to arrange or intelligently comprehend a score (Art. 172), the knowledge and practice of two main points is essential. These are respectively—I. *The order of superposition.* —II. *The mode of notation* of the several constituent parts.

§ 1. Arrangement of a Score.

I. Although from a variety of both general and special causes, subject to very considerable modification in particular cases, and at different periods of musical history, the arrangement of a score is, in the main, regulated by the following rules of general application.

(1.) The parts proper to the several media of production (voices and instruments) are arranged by way of stave superposition in groups or classes determined by the structural character, and hence the *timbre* of these. (*Cf.* p. 87.)

(2.) Instrumental parts of one same class are almost invariably arranged in order of *relative pitch* from the highest downwards.

(3.) In a combination of distinct choruses, choirs, or masses, that is placed lowest which is most suggestive in character of the entire composition—its *drift* or *meaning*—this being in general determined by the prominence of its *lowest* or *bass* part.

The following is the usual order followed in the notational construction of [illegible] of a modern full or orchestral score :—

Fig. 196.

NORMAL MODE OF ARRANGEMENT OF AN ORCHESTRAL OR FULL SCORE. (*Cf.* Table, Fig. 198.)

- **I. WIND.**
  - **1. WOOD.**
    - (a) *Tube.*
      - *Flauto Piccolo.**
      - *Flauti.*
    - (b) *Reed.*
      - *Oboi.*
      - *Clarinetti in C (in B♭, &c.)*
      - *Corno di Bassetto.*
      - *Fagotti.*
      - *Contra Fagotti.*
  - **2. BRASS.**
    - (a) *Soft.*
      - *Corni in C (in D, &c.)*
      - Other *soft* brass instruments.
    - (b) *Loud.*
      - *Clarini in E♭.*
      - *Trombe in C, &c.*
      - *Trombone* { *Alto.* *Tenore.* *Basso.*
      - Other *loud* brass instruments.
- **II. PERCUSSION.**
  - *Timpani in C, in D, &c.*
  - Other percussive instruments.
- **III. VOICES & STRINGS.**
  - *Violino 1mo.*
  - *Violino 2do.*
  - *Viola.*
  - *Soprano.*† / *Alto.* / *Tenore.* / *Basso.*
  - *Violoncello* (*e*) *Contra Basso.*
- **KEY-BOARD.**
  - *Organo*, or other key-board instrument, with either a *figured bass part* as in *old*, or in *full*, as in *modern* scores.

* The several vocal and instrumental designations are placed, in each instance, at the head of their first stave. (*Cf* p. 87.)

† *Cf.* Art. 367.

The following are some of the advantages attending the above generally received method of exhibiting a full score:—

(1.) The extreme and sometimes florid flute part is conveniently placed.

(2.) The strings and wood are well separated and defined by the demarcating brass with its characteristic intervals of silence.

(3.) The highly-important first violin part is, as situated immediately below the exceptional percussion, conveniently placed for the exhibition of its often florid writing.

(4.) The nucleus and—so to speak—*core* of the entire band, viz., the voices and strings, lies well for the eye, the clue to the joint whole being further strengthened by the union of the suggestive vocal and string base with the immediately contiguous key-board stave.

§ 2. Notation of a Score. (*Cf.* App. VIII.)

(1.) Species of Part.

II. For purposes of *scoring* and *orchestral notation*, parts may be regarded as essentially either (1) *non-transposing*, (2) *contra*, (3) *transposing*.

(1.) *Non-transposing* parts are those which receive a notation in exact correspondence with the actual or absolute pitch, in each instance, of the sounds indicated. Such are, *e.g.*, the violin, viola, oboe, soprano, &c., parts.

(2.) *Contra* (these being chiefly *duplicating*) parts are those noted normally an 8ve *higher* than actually performed, as, *e.g.*, the contra basso, contra fagotto, contra bombardon, &c. Of essentially similar character, although not in all cases used so extensively as *duplicating* parts, are respectively the horn in C (corno in C), the vocal tenor, and sometimes alto (with the G clef), noted an 8ve *higher*, and the piccolo or 8ve flute an 8ve *lower* than performed.

(3.) *Transposing* instruments or parts are those which conventionally, and by way of simplification, receive a *relative*, as distinguished from an *absolute*, notation (and whatever their actual absolute pitch) based upon, as normal, the so-called natural key of C. Their mechanism, and hence manipulation, remaining the same, whatever the particular cycle or set of keys to which, from their construction, they may be restricted or specially adapted, the comparatively simple and limited notation of C, with its immediately attendant keys, is found sufficient for all practical purposes.

The principal transposing *orchestral* instruments are the clarionet, trumpet, horn, cornet-à-piston, serpent, ophicleide, English, and basset horns, kettle-drum, &c. These, together with other brass instruments, used chiefly in *military*, as distinguished from *orchestral*, bands, are employed in a variety of different keys (*Cf.* table, fig. 198), obtained by the addition of *crooks* or pieces of tubing to their normal length, and whose application or interchange is dictated by a suitable direction during a rest in the corresponding part.

A useful and suggestive selection of the several transposing instruments, with their corresponding keys, is afforded in the table of "Instrumental Notation and Nomenclature" (fig. 198), whose careful consideration, in connection with severally the tables comprised in App. V. and fig. 196, will be found greatly to assist the student in the intelligent comprehension and mastery, generally, of the score.

(2.) SCORE ABBREVIATIONS.

For purposes of either perspicuity, economisation of space, or of despatch,

(1.) The parts (when not too florid in character) of two or even more similar instruments, &c., may, with corresponding reversion of stems, be united in a species of short or compressed score, upon a single stave.

Examples of this mode of treatment (of almost normal occurrence in the *wind*) are afforded in the case of severally the two flute, oboe, and clarionet, the two or even three fagotti and trombone, (normally the violoncello and double bass, *celli e bassi*), and when in *unison*, the first and second violin parts. By reason of its value for notational purposes (see p. 95), it is highly probable that the extended use of the method of writing, generally termed *short* or *compressed*, will be increasingly adopted in the construction and exhibition of the *full* score.

(2.) A joint rest of any duration may be indicated by the term *Cont* (*Contano*).

(3.) A part moving either in unison or in the 8ve with another, may receive indication by the direction *Col* (*Colla*) or *Coll' 8va* as *Col Canto*, *Col Secondo*, &c. (*Cf.* Art. 157.)

(4.) The repetition note for note of any section of a movement is occasionally indicated by an insertion of solely the two extreme parts with the transversely written direction, *come sopra.*

(5.) The following are typical examples of notational abbreviation as commonly encountered (fig. 197). (See also Arts. 128, 152–158; Appendix I.; Glossary, &c.)

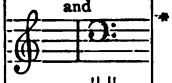
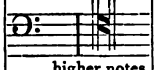
Fig. 197.

(1.) AS WRITTEN.

(2.) AS PERFORMED.

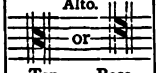
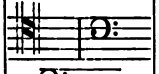
INSTRUMENTAL NOTATION AND NOMENCLATURE. (*Cf.* App. V. and Fig. 196.)

NOTATION.			NOMENCLATURE, &c.
Key.	Pitch.	Clef.	
			I. VOICES.
As sounded.	Abs.	Old. Modern.	**Treble** (It. *Soprano, Canto*). The Air, Melody, or Tune.
Id.	Occasionally (with G clef) 8ve higher.	And 8ve higher.	**Mezzo-Soprano.**
Id.	Id.	or Id.	**Alto.** (Men) Counter Tenor (Counter), (Women and Children) Contralto.
Id.	8ve higher (when with G clef).	or Id.	**Tenor** (It. *Tenore*).
As sounded.	Abs.	Old. Modern.	**Barytone** (It. *Baritono*).
Id.	Id.		**Bass** (It. *Basso*)
			II. INSTRUMENTS.
			I. STRINGED (BOW).
Id.	Id.		**Violin** (It. *Violino*). Fiddle.
Id.	Id.		**Viola.** Alto, or Alto Violin, Tenor.

Id.	Id., occasionally (with G clef) 8ve higher.		**Violoncello.** Bass Viol (C or G clef for continuous passages above A or d.
Id.	8ve higher.		†**Double Bass** (It. *Contra basso* or *Violone*).
			2. WIND.
			(1.) WOOD. (a.) *Tube.*
Ordinarily Id.	8ve lower.		†**Piccolo** (It. *Flauto Piccolo*). Piccolo or 8ve Flute.
Ordinarily Id.	Abs.	Id.	**Flute** (It. *Flauto*). German Flute.
			(b.) *Reed.*
As sounded.	Id.	Id.	**Hautboy** (It. *Oboe*).
Clar. in E♭, min. 3rd lower.	Rel.	Id.	*Clarionet (It. *Clarinetto*). Notation up to b♭♭, as indicated by "Chal" or "Chalameau," 8ve higher.
Clar. in C, as sounded.	Abs.		
Clar. in B♭, tone higher.	Rel.		
Clar. in A, min. 3rd higher.	Rel.		
Clar. in &c., &c.	Rel.		
5th higher.	Rel.	Id.	*English Horn (It. *Corno Inglese*) Cor Anglais.
Id.	Id.	and 	*Basset Horn (It. *Corno di Bassetto*).
As sounded.	Abs.	 higher notes.	**Bassoon** (It. *Fagotto*). Bass Oboe. The tenor clef sometimes takes a distinct stave.
Tone higher.	Rel.		*Serpent (It. *Serpente*).
As sounded.	8ve higher.	Id.	†**Double Bassoon** (It. *Contra Fagotto*).

NOTE.—For purposes of distinction, what are known strictly as *transposing* instruments, and playing in a different key from that noted, have been denoted by an asterisk, thus *; those playing the progression noted merely in a different *8ve*, and *without* change of key (and termed in this work *contra* instruments), by a dagger †. (*Cf.* § 2 (1).)

INSTRUMENTAL NOTATION AND NOMENCLATURE—*Continued.*

NOTATION.			NOMENCLATURE, &c.
Key.	Pitch.	Clef.	
			(2.) METAL (BRASS, &c.)
Tr. in F, 4th lower.	Rel.		* **Trumpet** (It. *Tromba;* high trumpets, *Clarini*).
Tr. in E, maj. 3rd lower.	Id.		
Tr. in E♭, min. 3rd lower.	Id.		
Tr. in C, as sounded.	Abs.		
Tr. in B♭, tone higher.	Rel.		
Cor. in. E♭, min. 3rd lower.	Id.	Id.	* **Cornet-à-Piston.** Cornopean.
Cor. in. C, as sounded.	Abs.		
Cor. in. B♭, tone higher.	Rel.		
Cor. in. A, min. 3rd higher.	Id.		
Horn in B♭, *alto*, tone higher.	Rel.		* **Horn** (It. *Corno*). French Horn, generally employed in pairs, with parts of each compressed upon a single stave, and written in the key of C.
Horn in E♭, maj. 6th higher.	Id.		
Horn in D, 7th higher.	Id.	Id.	
Horn in C, 8ve higher.	8ve higher.	Alto.	**Trombone—**
Horn in B♭, *basso*, 9th higher.	Rel.		*Alto.*
As sounded.	Abs.	Ten. Bass.	*Tenor.* The F clef occurs in low tenor parts.
			*Bass.*
Oph. in B♭, tone higher.	Rel.		* **Ophicleide.**
Oph. in A♭, min. 3rd higher.	Id.		
Oph. in &c., &c.			**Bombardon.**
As sounded.	Abs.	Id.	
			3. KEYBOARD, PERCUSSION, &c.
As sounded, or C.	Abs. or Rel.	Id. and	* **Kettle Drum** (It. *Timpani*). If tonic and dom., *usually in C;* if other notes, *as sounded*, but without *accidentals*.
As sounded.	Abs.		**Harp** (It. *Arpa*).
Id.	Id.	Id.	**Pianoforte.**
Id.	Id.	Id.	**Harmonium.**
		Id.	**Organ.** (Distinctively a separate stave is employed for the *Pedal* part in modern organ music.)

§ 3. DEFINITIONS. (*Cf.* Art. 172 and p. 95.)

An *organ* or *pianoforte* (sometimes termed a *vocal*) score exhibits the organ or pianoforte part upon its lowest, together with the several voice parts in order of relative pitch upon the upper staves. The term *vocal score* was formerly, and is still sometimes, applied to denote the foregoing with substitution of a *figured bass* in lieu of the now customary fully written keyed instrument part. (*Cf.* App. VI.)

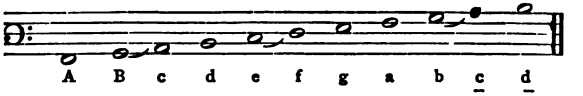
A *full* or *orchestral* score consists in the full exhibition upon each a separate stave (and with the conventional modifications above described (§ 2 (2) as to the compression of similar parts) of the *whole* of the constituent parts.

VIII. Exceptional Staves. (*Cf.* Table, fig. 198.)

Of the three following sections of the great stave (*Cf.* Art. 127), a knowledge of which will be found useful to the student, the first two are now entirely disused, the last, although of extensive employment in old (especially church) music, only very exceptionally met with, except in Germany.

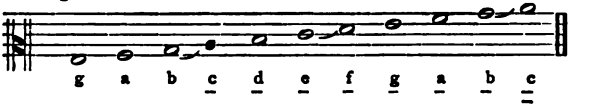
1. The Barytone Stave, consisting of the fourth line (reckoning upwards) of the complete stave, together with the two next in order above and below. The central line of the complete stave forms the fifth or top line of this collection, which is indicated by the presence upon its middle line (this being the fourth line of the complete stave) of the F clef. (Fig. 199.)

Fig. 199.



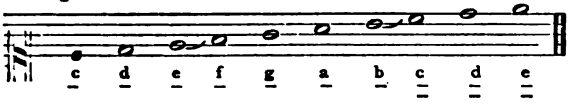
2. The Mezzo-Soprano Stave, consisting of the middle line of the complete stave, together with, respectively, the line next in order below, and the three immediately above. The central line of the complete stave, which is (reckoning upwards) the second of this, is indicated by the presence thereupon of the C clef. (Fig. 200.)

Fig. 200.



3. The Soprano Stave, consisting of the middle line of the complete stave, together with the four next in order above. The central line of the complete stave (which is the *bottom* line of this) is indicated by the presence thereupon of the C clef. (Fig. 201.)

Fig. 201.



IX. Music-Copying.

The following directions, of very general observance in the preparation of manuscript music, will be found of use to the student.

I. The constituent portions of the musical characters termed notes are (*a*) the *head*, determining its pitch and duration, (*b*) the *stem* or *tail*, (*c*) the *hook* or *crook*.

II. (*a*) *The stem.* (1.) When, in the exhibition of a single part upon the five-lined stave, the head is found *upon* the *central* or *pivot* line of this, the stem may be turned either upwards or downwards as most suitable to the context.

(2.) When the head of the note occurs *above* the central line, the stem should (excepting sometimes in continuous successions in one direction), in order suitably to restrict the progression within the limits of the stave, take a *downward*, when it *occurs* below, an *upward* direction.

The foregoing rules apply only to *single* stems.

(3.) (1) *Minim* stems, whatever their direction, invariably proceed from the *right* side of the head, while (2) the stems of *other* notes proceed, if *upwards*, from the *right*, if *downwards*, from the *left* side of the head.

(*b*) *The crook.* 1. The crooks (1) of *downward* stems point *in the direction of* and *towards* the head, (2) of *upward* stems in an *opposite* direction and *away* from the head.

2. In a group of notes from the 𝅘𝅥 downwards, the successive crooks become continuous *lines* whose direction is determined, obediently to the conditions of accent and phrasing, and excepting sometimes in long continuous successions, by that of their note heads. (*Cf.* Art. 165.)

The foregoing rules apply to either individual or combined notes —*i.e.*, to *harmonic* as well as *melodic* successions.

In a combination of *two* parts upon a single stave, the note stems of the upper and lower of these take the *former* an *upward*, the *latter* a *downward* direction. (*Cf.* p. 95 and App. VII. § 2 (2) 1.)

X. Specimens of Musical Analysis.

The following afford suggestive specimens of the analytical *dissection* of musical compositions recommended at pp. 398 note, 411, &c., of the text of this work. The analysis in question, effected by means of progressive reconstruction in MS. of each several piece, should be extended into even greater detail than is here exemplified, salient and leading points being first laid down, subordinate features added as their meaning is clearly ascertained, and, for the sake of perspicuity and brevity, a free use resorted to of appropriate abbreviations.

1. Fugue (S.A.T.B.): "And with His stripes we are healed."—*Messiah*, HANDEL. (*Cf.* Chap. xxxvi. § 3.)

Key. F minor, with characteristic omission of the last flat (D♭) in the signature, this note being exhibited when required as an accidental (*Cf.* pp. 108, 390).

Time. Alla cappella (𝔠) 91 bars.

(a.) *The Exposition.* (Bars 1–26.)

*Bars.**

1–6. (*Soprano.*) SUBJECT given out in the original or principal key (F minor) at the half-bar unaccompanied, chiefly in minim rhythm, and consisting of a generally *descending disjunct* (with characteristic diminished seventh), followed by an *ascending conjunct* figure or member.

5–10. (*Alto.*) ANSWER, with the exception of its initial tonic of substitution, *real*, and hence in C minor, a fourth below the subject.

7–9. (*Sop.*) First entry of counter-subject, which, as (*a*) characterised by a *waving conjunct* progression with *initial ascending* skip, and (*b*) wholly in crotchet rhythm, is well individualised and contrasted with the principal theme.

10–12. (*Sop.*, *Alt.*) CODA, continuative of answer and (to bar 14) of counter-subject, effecting some little variety and a return from C to F minor in order to introduce the second entry of the subject. (Bars (*Sop.*) 13 and 14 contain reminiscences of respectively the subject second figure and the end of counter-subject.)

12–19. (*Tenor.*) SUBJECT extended by interpolated repetition of the first part of its conjunct member a fourth higher (16–18),

* In the examples of the present section, the numerals refer to the *bars* of the several movements.

and thus (*a*) rendered more varied, distinctively conjunct and chromatic in character, and (*b*) permitting the duplication of the counter-subject in its second entry (*alto* 14, 15) effectively in the fourth above (*sop.* 16, 17).

19–26. (*Bass.*) ANSWER of extended subject note for note, excepting (tonally) the last, with corresponding duplication of counter-subject (third entry) in different parts (*tenor* 21–23, *alto* 23–25). In bars (16–22) the *alto*, and (24–28) the *tenor*, severally fill up the harmony with accessory counterpoints (complementary parts, *Cf.* Art. 348). (Note the *individualisation* of the subject secured by slight durational variations of its constituent notes at bars (8, 16, 17, 23, 24, &c.), and of the accessory part at, *e.g.*, bars (24, 25) *tenor*. (*Cf.* 38–43.) Note also the contrasted character of the contrapuntal progression, generally, throughout the piece.

(b.) *The Counter Exposition or Inversion.* (Bars 26–43.)

25–29. ANSWER, somewhat curtailed, in its own *key* (C minor), but in the *part* (treble) of the *subject*, accompanied by the fourth entry of the counter-subject (*bass* 27–29), this latter being followed at (29) by the *inversion* of its *first figure* or *bar*. (Cf. *Episodes.*) During a silence of the intermediate parts (*tenor* $2\frac{3}{4}$, and *alto* $7\frac{1}{4}$ bars), the extreme treble and bass form a coda, and thus effect a modulation (bar 31) into B♭ minor, in which key is introduced the

31–35. (*Tenor.*) SUBJECT, continued as accessory counterpoint (so varied in all respects as to assert the individuality of its own and the remaining parts) to bar (56). Note here (*a*) the reminiscence of bar 29 treble at 35, and bass inversion of the first figure of counter-subject at 36; (*b*) the progression in upper thirds (to throw this out in bold relief) with the bass subject (38–43) (*Cf.* tenor 24–26), and (*c*) the function of the part in establishing the modulation into the keys of successively F minor (36, 37), B♭ minor, A♭ major, and E♭ major (45). The counter-subject (*alto* 33) (*a*) imitates the preceding bass presentation (27–30) exactly to bar 36, (*b*) affords (at 36, 38, 39) reminiscences of respectively (29, 13 and 14 *treble*), (*c*) contains conversational play with the tenor (35–39), and (*d*) effects with this latter a return to F minor, in which is presented the completion of the inversion of the fugue by the re-entry of the

37–43. (*Bass.*) SUBJECT (*a*) in its own key, but in the *part* of the *answer* (*b*) in its second or extended form but slightly curtailed, the part proceeding as episodical counterpoint

to bar 48, and being accompanied throughout its entire length by the treble, partly as counter-subject (39–43), partly accessory episodical counterpoint, and leading up through the keys of successively B♭ minor and A♭ major to that of E♭ major.

It will be seen that the entries of respectively the answer and the subject constituting the (curtailed) inversion *proper*, take place for *emphasis* sake in *extreme parts*. Moreover, the three entries of the ruling theme comprised in this section of the movement—and this forms a characteristic, more or less, of the entire piece (Cf. *Summary* (e) (*d*)—occur, doubtless, for purposes of verbal illustration, each at a relatively acute pitch.

(c.) *The Development* (*Modulation, Episodes, and Stretto*).

43–48. EPISODE. Extraneous episodical counterpoint, passing successively through B♭ minor and A♭ major (the alto being *preparatorily* silent), and leading to an imperfect cadence in E♭ major.

48–52. (*Alto.*) SUBJECT in E♭ major, varied by the addition to its curtailed second member (52–55) of the episodical figure of (46–48), and accompanied by the counter-subject (*bass* 50–52), in the major prolonged as counterpoint episodically, and to effect a modulation to A♭ major to bar (57).

52–55. EPISODE. Episodical counterpoint in three parts (the treble being silent), and leading to, in A♭ major, the

55–63. (*Sop.*) SUBJECT, incorporating major episode previously given in E♭ (46–48 and 52–54) with (*tenor* 57–59) counter-subject prolonged as counterpoint to (63). A fragmentary and imitative, and a complete entry of the counter-subject, also occur at respectively (*bass* 59) and (*alto* 61–64), the latter effecting a return from A♭ major (established at bars 61–63, by the perfect cadence) to the original F minor, in which is exhibited the

63–67. (*Sop.*) SUBJECT with (*tenor* 65–71) counter-subject varied, and by incorporating the *inversion* of its first bar at 67, occurring at respectively (*bass* 29, *alto* 35, and *tenor* 36), and, moreover, to assist modulation prolonged.

67–73. (*Bass.*) ANSWER in C minor as given in the original exposition in the corresponding alto, and prolonged to bar 80. The counter-subject (*a*) enters at bar 69, but in imitation up to 73 of the varied form of (*tenor* 65–71), (*b*) is prolonged (by the addition as *third* figure or member (75-77) of an imitation of its *second*, a tone below), to 81, and itself receives imitation of its expansion of the tenor

variation of (67-69), and comprised in (71–77) of its own part, by the tenor, a fifth below (*tenor* 73–79).

73-79. EPISODE. Imitation in the fifth below of the alto by the tenor at two bars' distance, the figure being initiated by irregular inversion of the first bar of the counter-subject, and the complementary bass part being comprised mainly of sustained or holding notes. In this connection the student should note (1) the *stretto* induced by the structural repetition or imitation of the *second* comprised in the *third* member of the phrase imitated, and (2) the grateful effect in this particular and expressively *restless* fugue of the bass holding notes (Cf. *Pedal*).

(d.) *The Recapitulation and Coda.*

79–84. (*Sop.*) ANSWER, (*a*) in its second or extended form curtailed, (*b*) in the original dominant (C minor), and (*c*) in an extreme part. It appropriately precedes the final entry of the subject in the original key. The counter-subject enters (*tenor* 81), the other parts being for greater clearness silent.

83–87. (*Bass.*) Subject in original key with counter-subject (*alto* 85). Nothing could be more effectual in securing unity and finality than this final entry of the subject in the principal key.

87–91. Coda by all the parts effecting a half-close upon the original *dominant*, and so leading at once to the expected and complementary succeeding movement in F (the *tonic*) major—the chorus, "All we like sheep."

(e.) *Summary.* (*Cf.* Chap. xxxvi. § 3.)

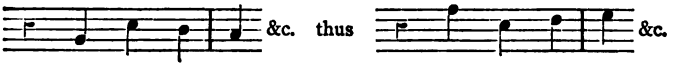
(*a*) EXPOSITION.
- (1.) *Order of Entry.*—Sub. (S), Ans. (A); Sub. (T), Ans. (B).
- (2.) *Keys.**—F minor (tonic); C minor (domt.); B♭ minor (subd.), transiently.

(*b*) INVERSION.
- (1.) *Order of Entry.*—Ans. (S) C [domt.] minor, Subj. (T) B♭ [subd.] minor, Subj. (B) F [tonic] minor.
- (2.) *Keys.*—C min., B♭ min., F min.; B♭ min. and A♭ maj. (transiently).

(*c*) DEVELOPMENT.
- (1.) *Order of Entry.*—Subj. (A) E♭ maj., Subj. (S) A♭ major, Subj. (S) F min., Ans. (B) C min.
- (2.) *Keys.*—E♭ maj., A♭ maj., F min., C min. (B♭ min., E♭ maj., A♭ maj., transiently), C min., F min.

* The student should carefully note the relation of each *fresh* to the *preceding* key in the several movements.

Episodes.—(1) From last three bars of counterpoint (46–48), (52–54), (59–61). (2) From counter-subject (*tenor* 65–71, and 73–79; *alto* 69–81), with at bars (*alto* 35, 71, 75), (*tenor* 36, 67, 73, 77), and (*bass* 29) irregular inversion of its first bar, followed by rhythmical reminiscence of the original accomp. of this at (*sop.* 29).



Stretto.—The stretto, which does not form so distinctive a feature in this as in many fugues, may be said to lie generally between bars (55 and 79), and more *particularly* between (62 and 70). It is to a great extent formed by means of the counter-subject with, for variety's sake, characteristic *inversion* in the culminating responsive play between the alto and tenor (65–79) of its first figure or bar.

Pedal.—As immediately preparatory to the succeeding movement, and terminating with a *continuative dominant cadence*, this fugue is exceptionally characterised (and probably for purposes of forcible expression of the verbal text) by an *absence* of pedal.

(*d*) RECAPITULATION.

The *intensity* and *piercing* character of the recapitulation arising from the *high pitch* of the subject, answer, and countersubject in the several percussions, and so pre-eminently expressive of the verbal theme under illustration, should be carefully realised by the student.

2. Sonata in F Major (Allegro).—MOZART. (*Cf.* Chap. xxxvii. § 3, 2.)

1. THE FIRST PART.

(a.) *First or Tonic Subject.*

Bars.

1–9. First (tonic) subject in the upper part and original key (F major), consisting of two tonic sections (the first unaccompanied, the second upon a pedal) of severally two phrases of two bars each. The second phrase repeats the first with substitution of tonic for dominant ending,

the third is comprised of an ascending, followed by a descending, scale passage, and the fourth effects a varied cadential descent from supertonic to tonic.

9–17. Idem, repeated in the bass with, as fourth phrase, the repetition or echo of the third in the treble. Accompaniment harmonically the same, but slightly varied.

(b.) *Passages.*

16–20. Last phrase of subject prolonged by the addition of, tonally, a sequential episodical passage based upon a succession of sixths.

20–23. Second member of episode effecting an interrupted or abrupt cadence upon the second inversion of the chromatic supertonic seventh, in the form of dissonant triad with the root omitted.

24–28. Motive of treble (16–20), repeated in the bass with (25–28) varied accompaniment. (Note the reminiscence of bar 20, treble, in bar 23.)

28–32. Expansion in bass of bar 20 of treble, to two bars repeated.

29–33. Treble. Imitation of (28–32) in the 8ve.

32–38. Imitative transient workings of first subject phrase through the keys of respectively D minor, C major, and C minor, as follows, viz.,

(33) In bass of (32) treble.
(33–35) Treble, D minor.
(34–36) Lower part, 8ve imitation of (33, 35), but varied in last half so as to lead into C major.
(35–37) Treble, C major.
(36–38) Bass, C minor.
(37, 38) Treble, C minor.

38–42. Repetitions of four quaver figure of first bar of subject in C minor, leading to close by means of the Italian sixth in G major, the dominant of the *original* dominant (C), (original supertonic G).

(c.) *Second or Dominant Subject.*

42–46. First or *dominant* section (1st bar, for clearness and, analogously with first subject, unaccompanied) of the second or dominant subject in C major, and in the upper part. (*Cf.* 1–9.)

46–50. Second or *tonic* section of the same, in character and construction, responsive and complementary to the first.

50–54. First section in the bass, somewhat varied, and imitated in the 8ve at the half bar by the treble.

54–58. Second section, first phrase in bass, accompanied by prefiguring of episode (67, 68), and continued with triplet variation in treble.

(Note the character of the second subject as relatively, and in its triplet constitution, well contrasted, although of similar extent, and in keeping with the first.)

(d.) *Passages.*

58–60. Triplet episode in C major (*treble*) founded upon chain of sixths. (*Cf.* 16–20.)

60–62. Idem (*bass*), slightly varied and with different accompaniments.

62, 63. Triplet episode (F major, *treble*) resembling the preceding in its opening.

63, 64. Idem (G major, *bass*).

64–67. Arpeggio (treble) repeated, with gently undulating bass, and threefold reiteration of last bar figure leading to close in G major (dominant of original dominant).

67–71. Four bar episodal subject *ascending*, and in bass unaccompanied to contrast clearly with *descending* (*treble*) *principal* subjects.

71–79. Idem, but in treble upon a dominant pedal, and varied with inner imitations (bar 74 tenor, being irregular inversion of 73, treble), and modulating to D minor.

79–82. Irregularly sequential imitative episode leading to interrupted cadence on second inversion of supertonic seventh (D), in the key of C major with the root omitted. (First stage of climax.) (*Cf.* 23.)

83, 84. Responsive ascending and descending scale passage, founded on respectively supertonic and tonic ($\frac{6}{4}$) harmony (C major).

85, 86. Idem, repeated exactly, but with fuller leading seventh of accompaniment. (Second stage of climax.)

87, 88. Repetition of (85, 86), but with variation of *ascending* scale to suit still more brilliant German sixth of accompaniment, and of *descending* to effect a more rapid and urgent () passage to coda cadence (third stage of climax).

89. Dominant chord with suspended fourth and trill (fourth stage of climax).

90–92. Triplet scale arpeggios, leading apparently to cadence (fifth stage of climax).

93–95. Idem repeated (sixth stage of climax).

96, 97. Idem harmonically varied and compressed from three to two bars (seventh stage of climax), decrescendo.

98, 99. Idem differently placed and distributed, in bass, (piano) (eighth stage of climax).

100–103. Tonic arpeggio close in original dominant (C major) in triplets (crescendo al forte). Double bar. Bars (83–103) form a brilliant chromatic coda.

2. THE SECOND PART.

(a.) *Development.*

104, 105. First phrase of first subject, for the sake of clearness and analogy alone, and in (*treble*, C minor). (*Cf.* 1–4, 42, 43.)

106, 107. Extension of the first part of the preceding, repeated with characteristic (as suggestive of the second subject) triplet accompaniment and varied distribution.

(The union or fusion of the two principal subjects constituting the "*development*" is characteristically accomplished by the free use throughout its extent of *triplets*, in conjunction with the *binary* phrases of the first or tonic subject as here pointed out.)

108, 109. Self-imitative running triplet passage leading to G minor.

109–115. Repetition of (104–109), but in G minor (dominant of C), with inversion of parts and some variation of the harmonic distribution, as well as of the accompaniment to the second or triplet motive, leading to D minor.

116. Descending arpeggio passage leading to A (dominant of D minor).

117, 118. Ascending *dominant* triplet arpeggios in *treble* responded to by ascending *tonic* in *bass* (key D minor).

119, 120. Idem repeated.

121, 122. Descending dominant arpeggios unaccompanied.

123–126. Ascending dominant arpeggios in 8ves *ff*, and forming a transposition of (100–102) in order to effect a half or dominant close upon A major (the dominant of D minor).

126–128. Third phrase of second subject in treble (D minor) with the same rhythmical, but somewhat varied tonal figure of accompaniment (the middle part becoming the lower) as at first (46–48.)

128–130. Idem (*bass*), G minor (lower part of accompaniment becoming the higher).

130–132. Idem (*treble*), C major, exact transposition of—allowing for *modal* difference—(126–128.)

132–134. Idem (*bass*), F major, exact transposition of 128–130.)

(130–134) form an exact transposition into the *major* of the *minor* matter of (126–130).

134–136. Idem (treble), B♭ major imitated sequentially but tonally in the bass, a fifth below (with *similar* motion) in the key of F at the half bar (first stage of approaching climax upon dominant seventh harmony).

136–138. Repetition of the bass imitation two 8ves above in treble (expanded in bar 138 by exact inversion of 137), with exact imitation an 8ve below at the half bar (key F

major), and *contrary* motion leading to, upon first beat of (139), the *second* stage of dominant seventh climax.

139, 140. Repetition in the same part of the triplet expansion of second subject phrase of (137, 138), but with, as accompaniment, the fundamental progression underlying its *own inversion*, comprised in treble 138, followed (140) by that underlying itself in treble 137. Bars 134–140 may be regarded as the knot, kernel, core, or stretto of the "Development." (*Third* stage of climax.)

141–146. Dominant seventh arpeggio passage analogous to and of exactly similar extent and construction with (121–126), and hence of (100–103 and 237–240) leading to an abrupt cadence or climax upon the dominant seventh (C) in F major, and so creating expectancy for the initiation of the recapitulation by the re-entry of the principal tonic subject in the original key.

b.) *Recapitulation and Coda.*

146–154. Re-entry of tonic subject as at first (1–9).

154–156. First phrase (*bass*) unaccompanied as at first (9–11).

156–158. Idem, but unexpectedly and as a surprise, in D♭ major, and in *treble* (*Cf.* 11, 12) with *light* chords of accompaniment.

158, 159. Idem (*bass*), B♭ minor slightly curtailed.

160, 161. Four quaver figure of last half bar (159) (=*last* quaver figure of the subject phrase) thrice repeated in tonal sequence (*bass*, F minor) with *sustained* accompaniment of *suspensions*.

161–164. Idem (*treble*), through successively D♭ major, B♭ minor, A♭ major, and F minor.

165–169. Transposition of the expansion of the *first* figure of the first subject phrase comprised in (38–42), from C minor and G major to F minor and C major, in order to exhibit the second or dominant subject in the key of the *tonic* (F).

169–200. Second subject in the original or tonic key, and passages, being a transposition of (42–73) from C to F major as a central key.

200–202. Completion of episode as at its original presentation in bars (67–70), this being curtailed in the (to this) corresponding position (71–74).

202–207. First phrase of first subject thrice repeated in original key (treble) (the third time, however, curtailed of its second half) combined with a third reiteration of the episode initiated (194–198)—this latter being expanded, and thus *emphasised* by the interpolated repetition of, at the 8ve, its second and third bars.

208-215. Transposition of (75-82) (*Cf.* 169-200).
216. Continuation of (215) in C minor.
217. Real sequential repetition of (216) in B♭ minor (a tone lower).
218, 219. Repetition of (214, 215) 8ve lower.
220-240. Transposition of (83-103) from C (the *dominant*) to F (the *tonic*) major.

Omitting passing variations in figuration and accompaniment and necessary transpositions, distinctive points of difference between the *original percussion* and the *recapitulation* of the principal subjects are (1) the presentation of the first tonic subject phrase in the keys of respectively D♭ major and its relative (B♭) minor, with episodical sequential working of its *last* figure of four quavers (156-164) in lieu of the more extraneous episode of (16-33), (2) the expansion of the dominant or second subject episode of (67-71) curtailed at (74), and its conjunction with the initial *tonic* subject phrase (201-207), (3) the expansion of the *second subject sequential* episode in (212-219) of (79-82).

XI. Glossary of Musical Terms.

[NOTE.—For an explanation of terms not found in the following brief Glossary of Musical Terms, which is intended as *complementary* to the text of the present work, the reader is referred to the Index.]

A Bene Placito.—At pleasure.
Alla Cappella.—In the church style, and generally in alla breve time taken quickly, with as usual signature the barred C .
A Capriccio.—According to fancy.
Accelerando.—Quickening by degrees.
Adagio.—Quite slow, very leisurely, and with much expression. Not, however, so slow as *Largo*, or, according to some, *Lento* or *Grave*. (Art. 164.)
A due.—For two voices or instruments, each taking one same part (written generally upon a single stave), as opposed to *Divisi*, *q.v.*
A deux temps.—In simple duple time.
Affettuoso.—Tender, affectionate.
Agitato.—Restless. At an irregular, hurried, and broken (*i.e.* an *agitated*) pace.
Alla Siciliana.—In a species of pastoral (rural or Sicilian) style, and generally in a compound duple time, such as $\frac{6}{8}$ or $\frac{12}{8}$.
Allegretto.—Between Andante and Allegro, but lively and cheerful; not so quick as Allegro (Cf. *Etto*).
Allegrettino.—Not so quick as Allegretto (Cf. *Ino*).
Allegro.—Lively, quick, brisk (contrast *Adagio*). (Art. 164.)

Allemande (*Fr.*)—An old slow German or Swiss air or dance in duple time, sometimes incorporated as one of a *set* or *suite de pièces.*

A mezzo voce.—With half the power of the voice or instrument.

Andante (Lit. *moving* or *going*).—Proceeding moderately slowly, but continuously, easily and without break. (Art. 164.)

Andantino.—A diminutive of Andante (Cf. *Ino*), and employed ambiguously to denote either (1) a little *slower* than, or (2) a little *quicker* than, Andante.

Anima.—Feeling, soul.

Animato.—Lively.

Anthem.—A sacred composition for voices, with or without instrumental (chiefly organ) accompaniment, the words being (1) English, (2) selected primarily from the Bible, and (3) secondarily, from other sacred sources. Musically considered, the Anthem, which is of no special form, but constitutes a general development of the Motett, may be classified as either (1) Full, (2) Verse, (3) Full with Verse. The *full* portions of an anthem are sung by the whole of the choir, the *verse* by *soli* voices (one to a part). Thus the full anthem consists *wholly*, the full with verse *mainly* of *chorus*, the *verse* mainly, sometimes almost *entirely*, of *soli* writing in any number of parts. A full anthem with verse generally leads off with a chorus, a verse anthem with a verse, the choruses being short, responsive, and of the nature of episodes (sometimes burdens) in the piece. The Anthem is prescribed for use in the Service of the Anglican Church by the Book of Common Prayer, and its delivery is generally understood to be intended primarily, and in contradistinction to the other musical portions of the service, for the choir alone.

Aperto, open; indicates in pianoforte music the lowering of the damper pedal.

A poco a poco.—By little and little, gradually, by degrees.

Aria.—An air, song, melody, tune, or movement for a single voice with or without accompaniment.

Arietta.—A short air (Cf. *Etto*).

Arioso.—In the style of an air.

Assai.—Enough, very, decidedly, as *Adagio assai*, very slow.

A tre.—For three voices or instruments.

Attacca.—Begin or go on at once and without a pause.

Attack.—An imitative fugal *lead* or *point*, or the style in which it is *rendered* or *delivered.*

A una corda.—On a single string.

Ballad.—A familiar or popular song, with ordinarily the same music to each of the verses.

Ballet.—A part-song in the Madrigalian style of the Elizabethan

period, with a characteristic *Fa, la* chorus, refrain, or burden, and used originally as an accompaniment to the dance.

Barcarole.—A simple characteristic undulating air in the style of the Venetian gondoliers.

Basso Ostinato.—Ground Bass. (*Cf.* Art. 313.)

Basso Continuo.—A figured bass. (*Cf.* App. p. 426.)

Beat.—(1) A transient shake (*see* App. I. (4). (2) The portion of a measure corresponding to a single movement of the hand in beating time (App. p. 423).

Ben, well; as *ben marcato*, well marked.

Bis, twice; indicates the repetition of a short musical phrase or succession.

Bourrée.—An antique, brisk, characteristic, Gallican dance-tune in common time, and sometimes incorporated as one of a *set* or *suite de pièces.*

Brace.—Used to connect two staves.

Cadenza.—An ornamental or running (bravura) passage, either really or apparently *impromptu* in character, and introduced for purposes of display towards the close of either the first or the last movement of a concerto, or of a vocal or instrumental solo.

Calando.—Gradually diminishing in force and speed.

Cantabile, Cantando.—In a smooth, expressive, *vocal* style.

Cantata.—Formerly, a combination of melody and recitative, a species of *scena*, for a single voice; at the present time a composition for several voices in a variety of movements, more or less dramatic in character, and akin to the oratorio, but of shorter limits, and with an absence of action.

Cantoris.—The side in a cathedral choir of the *Precentor* (*Cantor* or chief singer), as opposed to that of the *Dean* (Cf. *Decani*). The term is used to indicate the (responsive or antiphonal) musical portions of the service assigned to the choristers who sit upon the side in question.

Canzona.—Formerly, a polyphonic imitative vocal composition in one, two, or three parts, in the Madrigal style. Also an instrumental movement akin to the early sonata. A song or ballad.

Canzonet.—A little song. A song or duet.

Capriccio.—An irregular unrestricted instrumental piece akin to the fantasia.

Carol.—A song of praise. The old quaint characteristic ditties sung upon the great Church festivals, notably at Christmas and Easter.

Catch.—A species of humorous round for several voices, the point consisting in the play upon words resulting from the successive combination of the parts.

Cavatina.—A simple dramatic song.

Chaconne (*Fr.*)—A slow Spanish dance in $\frac{3}{4}$ time, ordinarily major,

generally built upon a ground bass, and occasionally found as one of a *set* or *suite de pièces*.

Chalameau.—An ancient reed instrument (Lat. *calamus*, a reed), a term applied to the lower register, and hence part of the clarionet and basset horn. (*See* Table fig. 198, *Appendix*.)

Chant.—A concise form of musical composition, consisting partly of recitative, partly of regular melody, and used for the musical expression of the Prose Psalms and Canticles, and sometimes other Prose Biblical passages, together with metrical hymns.

Chants are either I. Gregorian or II. Anglican. I. A *Gregorian* chant comprises in order the following constituent portions, viz.—(1) the *Intonation*, (2) the (first) *Dominant*, (3) the *Mediation*, (4) the (second) *Dominant*, (5) the *Ending*. II. *Anglican* chants are either (1) *Single* or (2) *Double*. (1) *Single chants* comprise two sections, strains, or "halves" of respectively three and four bars in extent, the first notes in either "half," which correspond with the dominants of the Gregorian specimens, and are of indefinite duration, being termed the *reciting tones*. (2) *Double chants* consist, so far as form is concerned, in the union of two single specimens, with, however, in good examples, a greater diversification and appropriate balance of cadence. Chanting is commonly either (*a*) unisonal, or (*b*) in harmony (almost universally) of four parts. A *convertible* chant is one capable of translation from the major to the minor mode upon the same tonic (*tonic minor*, i.e.), or *vice versâ*, without alteration of pitch, and as a result solely of the modification of the distinctively *modal third* and *sixth* of the scale.

Choral.—A psalm or hymn-tune. The Canto Fermo, Church Tune, or Plain Song. (*Cf.* p. 310.)

Chorus.—(1) A composition for a full body of singers, often (either actually or relatively and essentially) of the nature of a burden or refrain. (2) Also the performers themselves.

Col, Coll', Colla, Con.—With. As *colla parte*, with the part.

Come.—As, like. As *come sopra*, as above. (*Cf.* p. 433 (4).)

Commodo.—Conveniently, at will, composedly, without effort.

Concertante.—A concerto for more than a single instrument.

Concertino.—(1) A short concerto; (2) the chief part in a concerto.

Con sordini.—In violin music, with mutes.

Contra.—Against. (*See* Appendix, *Score*.)

Coranto (*It.*)—
Courante (*Fr.*)— } A slow Italian dance in triple time, and sometimes found incorporated as one of a *set* or *suite de pièces*.

Da Capo.—From (i.e., *return to*) the beginning. A direction to repeat in performance as far as the first double bar or that indicated by either the pause 𝄐, the term *fine* (*q.v.*), or both.

Da capo al Segno.—(Or simply the sign 𝄋 itself), repeat from the sign. (Cf. *Segno*.)

Decani.—Used similarly, but as opposed to *Cantoris, q.v.*

Descant.—A species of counterpoint or harmonisation of given themes, historically intermediate between the earlier *Diaphony* and *Counterpoint proper.*

Diapason.—(1) Compass or register. (2) An important (the chief) organ stop. (3) The tuning fork, and hence fixed standard of pitch.

Diaphony.—The first crude attempts at, or mediæval system of harmonisation or counterpoint.

Diluendo.—Dying away, decreasing.

Di molto.—Very much (an *augmentative*). As *allegro di molto*, very fast.

Direct (𝄐).—A character placed, as needed, at the end of a stave to indicate the note or rest next to be performed.

Divertimento.—A light, pleasing, cheerful (vocal or instrumental) piece in a familiar style.

Divertissement.—Idem. Also music of the ballet order interpolated between the acts of an opera.

Divisi.—Divided. A direction for unison parts upon a single stave to resume their several parts in the harmony. (Cf. *A due.*)

Division.—Formerly a developed (vocal or instrumental) variation; at the present time a run or succession of notes forming a single phrase, and in vocal composition ordinarily assigned to a single syllable.

Double.—In orchestral scoring, *contra; q.v.*, formerly, a variation.

Duet.—A piece with parts for two principal performers.

Embouchure.—(1) The mouth-piece of a wind instrument. (2) Skill in using and managing the same.

Etto.—A diminutive affix. (Cf. *Allegro, Allegretto.*)

Euphonium.—A brass bass instrument used in a military band.

Faburden.—
Falso bordone (*It.*)—
Faux bourdon (*Fr.*)—
Terms applied to early forms of harmonisation or counterpoint, as, *e.g.*, originally (1) the drone bass, and subsequently (2) harmonisation by a chain of sixths, as well as to (3) other ancient species of counterpoint.

Fal Las.—Madrigalian songs, with, as burden, the syllables *Fal, la.* (See *Ballet.*)

Falsetto.—The artificial and supplementary head voice (*voce di testa*).

Fine.—The end. Indicates the point of close after a repeat. *Da Capo al fine*, repeat from the beginning to the direction *fine.*

Flageolet.—A wood wind instrument with an ivory mouth-piece, formerly employed in the orchestra, and of somewhat shrill though agreeable quality.

Galliard.—An old lively popular Italian dance in triple time, the precursor of the minuet.

Galop.—A quick, lively dance in $\frac{2}{4}$ time.

Gavot.— *Gavotte.*— A brisk though dignified dance movement in common time, very often found up to the middle of the eighteenth century as one of a *set* or *suite de pièces.*

Giga (*It.*)— *Gigue* (*Fr.*)— A jig; a brisk dance in triplet measure, and, in a more or less extended and developed form, often incorporated from the middle of the seventeenth to that of the eighteenth century as one of a *set* or *suite de pièces.*

Glee.—A distinctively English composition for *solo* voices, and cultivated most extensively and successfully during the latter half of the eighteenth and the first quarter of the present centuries. The glee contained two or more movements of different character, was marked by tuneful, clear, and expressive melody and part writing, and differed intrinsically and in every essential respect from the imitative, contrapuntal, older and more polyphonic madrigal. (Cf. *Madrigal.*)

Glissando.— *Glissato.*— In a smooth, rapidly slurred, gliding style, attained in pianoforte music by playing a succession so marked with the tip of a single finger.

Grave.—Very slow and solemn, grave, weighty, with majesty. (Art. 164.)

Il piu.—The most.

Inganno.—A deception or musical (cadential, &c.) surprise.

Ino.—A diminutive affix. (Cf. *Allegretto, Allegrettino.*)

Introduction.—A preparatory movement, a sort of prelude or musical *preamble.*

Introit.—In the Roman service the antiphon or anthem sung at the *entrance* or beginning of the mass. Also the psalm, hymn, &c., sung in the corresponding place in the service of the Anglican Church.

Issimo.—A superlative affix, as *Adagio*, slow; *Adagissimo*, the slowest, very slow.

Jig.—(Vide *Giga.*)

Ländler (*Ger.*)—A sort of slow, graceful, rustic waltz, in simple triple measure, practised by Austrian peasants.

Larghetto.—Not so slow as Largo (a diminutive).

Largo.—Large, slow, broad, massive, solemn. (Art. 164.)

Lentando.—Slackening the time by degrees.

Lento.—Slow, lingering.

Lesson.—An old term for a *suite* or *set of pieces*, for the harpsichord, &c.

L'istesso.—The same, as *L'istesso tempo*, the same pace.

Ma.—But.

Madrigal.—A polyphonic, unaccompanied, secular vocal chorus in the strict, imitative, or contrapuntal style of the sixteenth and early part of the seventeenth centuries, of one or more movements, and generally characterised by its typical constitution of imitative melodic phrases of brief extent and much rhythmical variety, overlapping and attack. It thus differed essentially from the more homophonic, æsthetically-contrasted, modern, and hence *harmonic*, as distinguished from *contrapuntal*, *glee*, which historically it preceded. The madrigal and the glee were each typical of the condition of the musical art at the respective epochs in which they severally distinctively flourished. (*Cf. Glee.*)

March.—A musical composition of decided rhythm, and generally in binary measure, adapted to processional movement.

Mazurka.—A brisk, though sentimental, Polish dance of peculiar rhythm, and in $\frac{3}{4}$ or $\frac{3}{8}$ time. As in the analogous instance of the waltz, the Mazurka has been treated classically as an instrumental movement, the most distinguished name in connection with such an employment of this form being that of Chopin.

Men, meno.—Less, as *meno piano*, not so softly.

Mezzo.—Half, medium, moderate.

Moderato.—Moderate, in moderate or medium time. (Art. 164.)

Molto.—Much, very, as *molto adagio*, very slow.

Morendo.—Fading or dying away.

Mosso.—Moved, motion, as *piu mosso*, faster; *meno mosso*, less moved, slower.

Motett.—A sacred vocal composition of the anthem order, originally a species of sacred madrigal. In the Roman Church the term is applied to the diversified settings of the successive stanzas or verses of a metrical psalm or hymn.

Motive.— } A musical subject or idea.
Motivo.— }

Moto.—Motion, movement; *con moto*, rather quick, keeping up the movement, as *andante con moto.*

Musette.—A soft, sweet pastoral air or dance with a pedal or drone bass.

Nel.—*In* or *at.*

Notturno.—(1) A serenade for open-air performance; (2) a quiet, elegant evening piece.

Obbligato.—(1) A part which may not be omitted, since indispensable to the adequate or efficient performance of a musical work. (Contrast *ad libitum* part.) (2) Generally, a very prominent part.

Offertoire (*Fr.*)— } A piece rendered during the offertory. In
Offertorium (*Lat.*)— } the Roman Church this is commonly an organ composition.

Opera.—A musical drama. One of the highest orders of musical composition.

Opus (Lat. a work).—It is customary for composers to *number* their several works in the order of production or publication.

Oratorio.—A sacred musical drama but without action. One of the most exalted orders of musical composition.

Orchestra.—(1) An instrumental band. (2) The erection upon which the performers are placed.

Organum (see *diaphony*).—Another name for diaphony.

Overture.—An introductory (sometimes independent) instrumental movement, usually in the (more or less modified) sonata form.

Part-Song.—A modern vocal chorus introduced from Germany, and distinguished from both the madrigal and the glee by its general constitution of a well harmonised, striking, and predominant melody.

Passacaglio (*a*).—
Passecaille.— } An old dance movement, ordinarily minor, in $\frac{3}{4}$ time, and upon a ground bass, a species of Chaconne. (*Cf. Chaconne.*)

Pastorale.—A simple quiet rustic melody or piece in compound duple ($\frac{6}{4}$ or $\frac{6}{8}$) measure. (Cf. *Alla Siciliana.*)

Più.—More, as *più tosto*, more soon, rather, *più assai*, much more; *il* or *al più*, the most.

Poco.—A little. (*Cf. A poco a poco.*)

Poi.—Then, afterwards; *poi a poi*, by degrees.

Polacca.—A slow, Polish dance movement in $\frac{3}{4}$ time, and with characteristic peculiarity of rhythm.

Polka.—A lively modern dance movement in $\frac{2}{4}$ time with the third quaver accented.

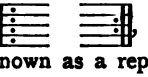
Portamento.—(1) The proper conduct and management of the voice. (2) A gliding or sliding from one note to another of different pitch.

Presto.—Very fast, rapid. (Art. 164.)

Quadrille.—A dance made up of five distinct movements termed respectively (1) *Le Pantalon*, (2) *La Poule*, (3) *L'Eté*, (4) *La Trenise* (or *La Pastourelle*), (5) *La Finale.*

Quasi.—As if, like, almost.

Rallentando.—Slackening by degrees.

Repeat.—Musical passages designed for repetition are ordinarily enclosed between dots vertically arranged between the stave-lines, as, *e.g.*, thus  , and accompanied sometimes by the sign known as a repeat 𝄋 (*Segno*). (Cf. *Da Capo* and *Segno.*)

Rifiorimenti.—Impromptu embellishments.
Rigadoon.—A gay, antique, French, or Provençal dance in duple measure.
Ripieno.—Filling up, duplicating, chorus or *tutti*, as distinguished from the *principal* instruments or parts. (Cf. *Tutti.*)
Ritardando.— } Gradually retarding the pace.
Ritardato.— }
Ritenendo.— } Arresting or holding back the pace at once.
Ritenuto.— }
Ritornel.— } A symphony or interlude to either a vocal or instru-
Ritornello.— } mental piece.
Rosalia.—The *stepwise* sequential repetition of a musical passage.

Saltarello (Lat. *Saltare*, to leap).—A very quick, characteristically *leaping*, antique, Italian dance, found as one of a *set* or *suite de pièces.*
Saraband.—An old, slow, dignified Spanish dance in simple triple time, with an accent upon the second beat, often found as one of a *set*, or *suite de pièces.* The Saraband, of Moorish extraction, was originally accompanied by castanets.
Scena.—A dramatic vocal solo.
Segno.—A sign 𝄋. A sign of repetition. *Al segno*, go back to the sign. *Dal segno*, repeat from the sign. (Cf. *Repeat.*)
Segue.—(1) Follows, comes after. (2) Go on similarly. (Cf. *Attacca.*)
Sempre.—Ever, continually, always, constantly, as *sempre legato*, smooth and flowing throughout.
Senza.—Without, as *senza replica*, without repetition.
Simile.—Similarly, in like manner. Indicates the repetition of a figure, &c., previously indicated.
Si scriva.—As written.
Si segue.—As follows, go on.
Slentando.—Retarding the pace.
Smorzato.—Dying away.
Solfaing.—Using the notes in connection with, in lieu of *words*, what are termed the *solfa syllables, Do, Re, Mi, Fa, Sol, La, Si, Do.*
Solmization.—The art of solfaing.
Solfeggio.—A musical exercise involving the use of the solfa syllables, or generally any vocal exercise.
Solo.—Alone (plural, *soli*, one to a part).
Sonatina.—A brief, curtailed, or slightly developed sonata.
Sopra.—Above, before, upon, over, upper.
Sostenuto.—Sustaining or prolonging the notes their full time.
Stretta.—A final passage or coda taken for effect in an accelerated tempo.
Stringendo.—Accelerating the pace.
Subito.—Suddenly, at once; as *volti subito*, turn over at once.

Suite de Pièces.—A collection or set of (instrumental) pieces. (*See* Index.)

Tacet (*Lat.*)— } Be silent. A direction for a part not to perform.
Tace (*It.*)— }
Tambour, Tamburone.—The big drum.
Tanto.—So much, as much, as *allegro non tanto*, not so fast, not too quick. (Cf. *Troppo.*)
Tarantella.—A Neapolitan dance in very rapid triplet ($\frac{6}{8}$) measure.
Tasto Solo.—In. unison, without chords, one key (i.e., *progression*) alone.
Tenuto.—Held on for the full time, sustained.
Terzetto.—A short (generally *vocal*) trio.
Toccata (*Lat. toccare*, to touch).—A composition chiefly for keyed instruments, and mainly designed for purposes of executive display.
Tosto.—Fast, swift, rapid. *Più tosto*, more rapid, also rather (*i.e.*, more soon).
Transcription.—A rearrangement of a musical work for another than the original voice or instrument for which it is designed.
Troppo.—Too much, as *allegro non troppo*, not too quick. (Cf. *Tanto.*)
Tutti.—All, full, by the whole of the performers. (Contrast *Soli.*)

Vibrato.—A strong, vibrating, tremulous quality of tone.
Vivace.—Brisk, sprightly, with vivacity. (Art. 164.)
Vocalisation.—Singing a note or succession of notes without words, or upon a *single vowel*, in contradistinction to solfaing or singing to *several* vowels.
Volta.—A turn or time (subst.), as *una volta*, once; *due volte*, twice.
Volti.—Turn (verb.), as *volti subito*, turn at once.
Voluntary.—An organ solo, not unfrequently of an *improvised* character (hence, probably, the origin of the designation) played in connection with any office or service of the Church. In accordance with the time of their introduction, as either before, during, or after the service, Voluntaries are known as Introductory (Preludes), Middle (Interludes), or Concluding (Postludes).

Waltz.—(1) A dance in triple time, and in phrases of eight or sixteen bars; (2) an instrumental movement based upon (1), but characterised by greater rhythmical freedom and development. (Cf. *Mazurka.*)

INDEX.

NOTE.—*For references not contained in the following Index, the Reader is referred to* Glossary of Musical Terms, *App. XI., p.* 448. *Unless otherwise in each instance expressly indicated, the references are made invariably to the consecutively numbered* articles *or* leading paragraphs, *and* not *to the* pages *of the text.*

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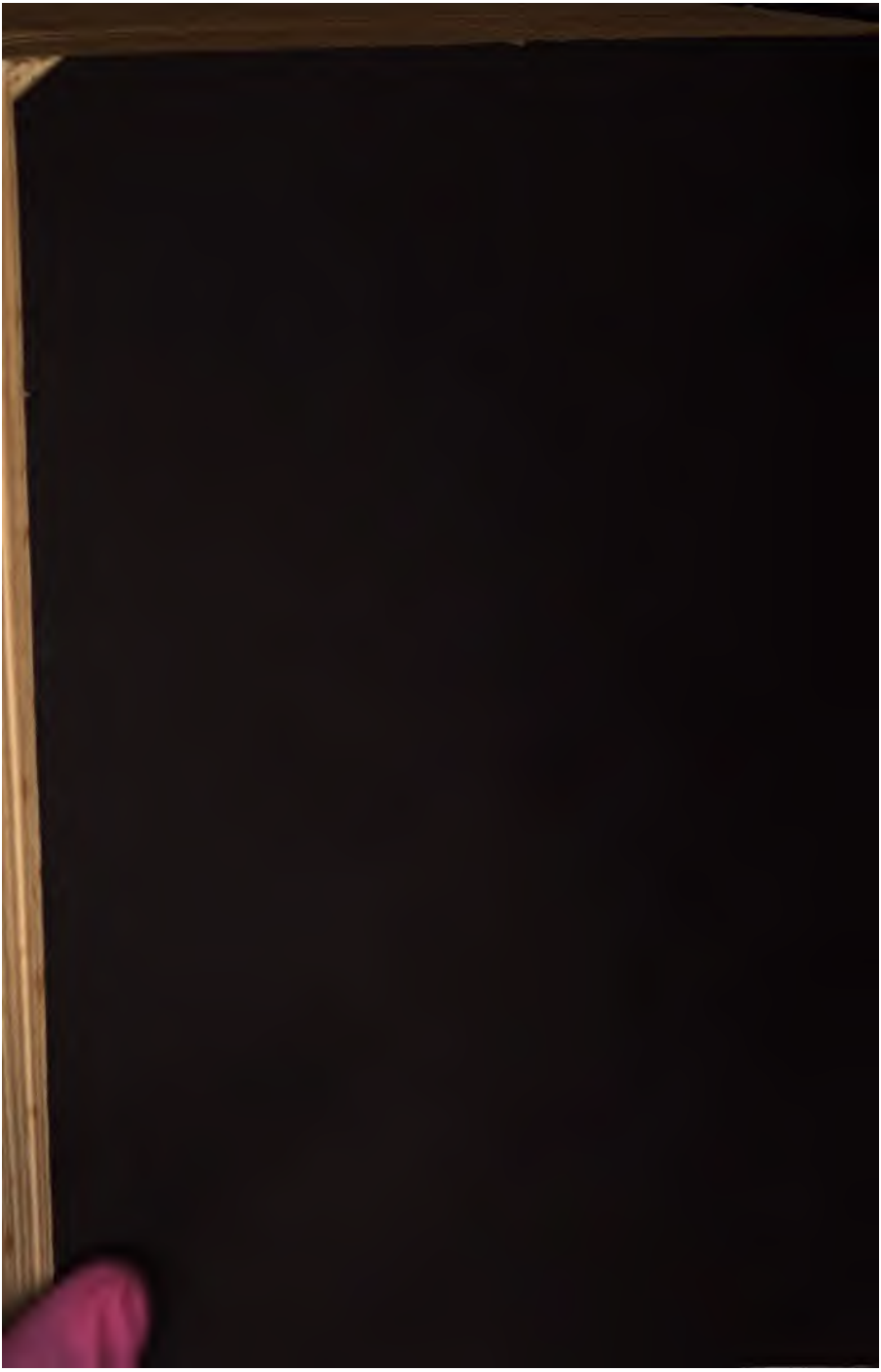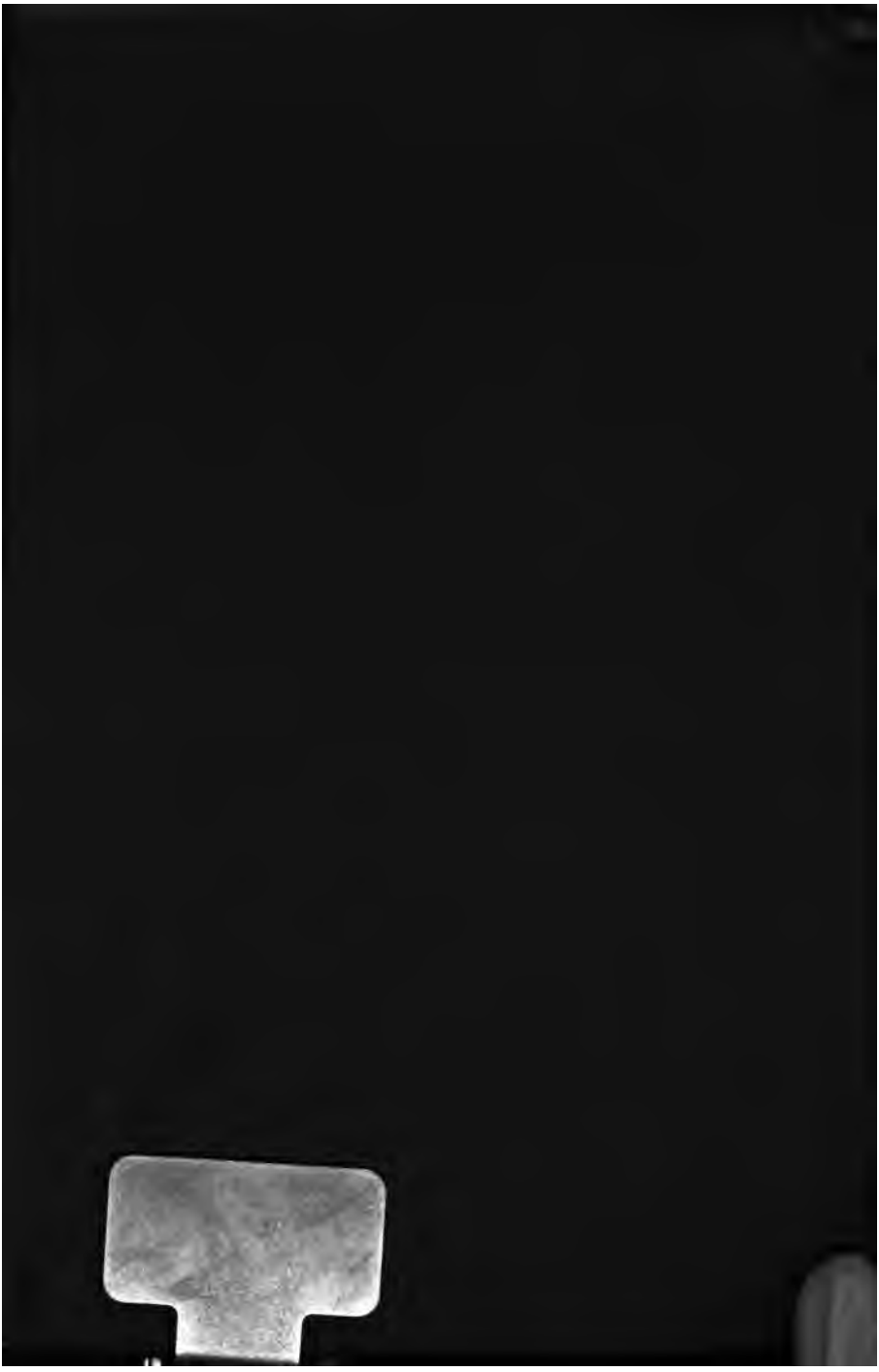
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